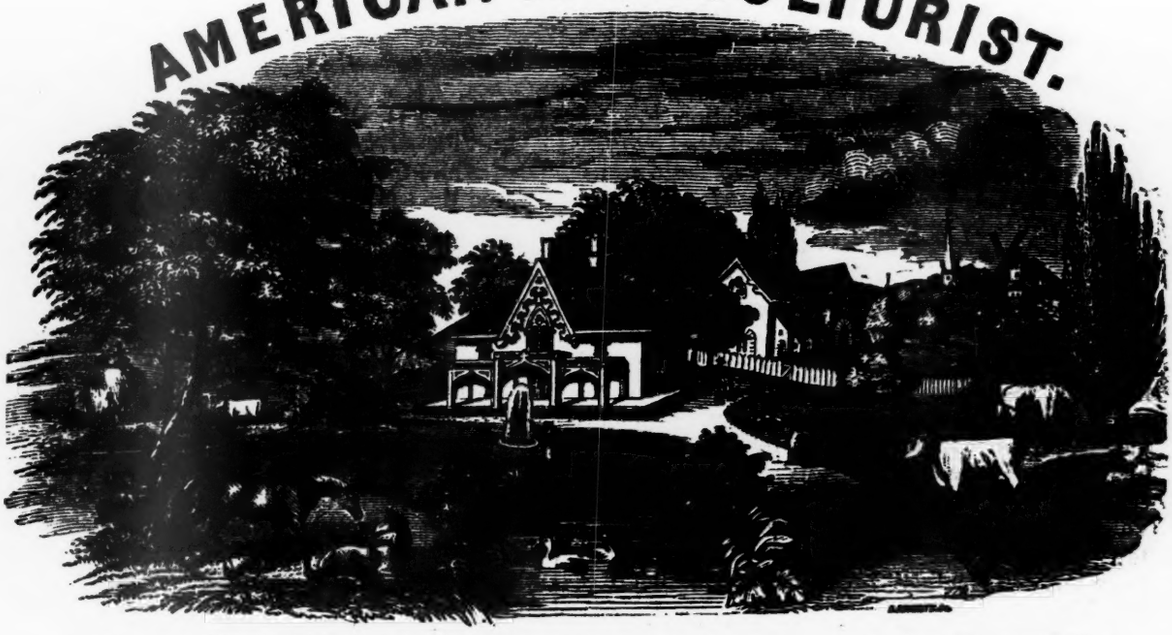
AMERICAN AGRICULTURIST.



Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

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PRECAUTIONS AGAINST THE TURNIP AND CABBAGE FLY.

AT a period when a great deficiency of potatoes prevails, a partial substitute for that valuable root may be formed by the finer kinds of the turnip and the cabbage for human food, and of the coarser kinds for that of animals; but one of the greatest drawbacks in the cultivation of these vegetables, in times past, in this country, particularly that of the turnip, has been the losses sustained by the ravages of the fly. This difficulty, doubtless might be obviated by artificial means, among which, we would recommend for experiment the following:—

1. It appears from a trial made at the suggestion of Sir Humphrey Davy, that lime slaked with urine, and mixed with three times the quantity of soot, by measure, and sprinkled in with the seed, at the time of sowing, protected them and the germs from the ravages of insects; but this antidote cannot be conveniently applied unless the seed is sown in drills.

2. A simpler remedy than the above, which has proved perfectly successful, is to steep the seeds, 24 hours, in tepid (blood-warm), sulphur water, mixed in the proportion of one ounce of sulphur to a pint of water. This quantity is sufficient to soak 3 lbs. of seed.

3. Mixing equal parts of old seed with new, dividing one half and steeping it in tepid water 24 hours, and then mixing it again with the dry seed, has often been tried with good effect. By this means, four different times of vegetation are brought about, and consequently as many chances of escaping the ravages of the fly.

Radish seed has also frequently been mixed with that of the turnip, and as the fly prefers the former, the latter remains untouched.

4. Dusting the plants, when in the seed leaf, with finely-powdered quicklime, has likewise been tried with good effect. A bushel of quicklime is sufficient to dust an acre of turnips, sown in drills, the young seed leaves being powdered in the least degree is sufficient; but, should the lime be washed off by rain, before the plants acquire their secondary leaves, it may be necessary to repeat the dusting, should the fly again appear.

5. In the heat of summer, it is of great importance to sow just before, or in the time of rain; for the fermentation, caused by heat and copious showers, gives an extraordinary quickness of vegetation to the seed, which, in a few days, will be in the rough, or secondary leaf, and out of all danger from the fly.

This insect is always weakened, or killed, by drenching showers, and never does injury to the crop, if it is attended with early and copious rains.

NOTES ON LONG ISLAND.—No. 3.

Centre Island.—This is a fine tract of 650 acres. It lies in the middle of Oyster Bay, and hence its name of Centre Island. It was originally purchased of the Indians, by a Mr. Ludlum, two of whose descendants still own 400 acres between them. The residue, 250 acres, belongs to Mr. Jacob Smith.

We had a delightful sail in an open boat across the bay, to this charming island, but landing rather late in the afternoon, we had time only to call on Mr. Smith, much regretting we could not also see the Messrs. L. Mr. S. is an excellent and very enterprizing farmer, and has greatly increased the productiveness of his share of the island, since he became its possessor. He catches any quantity of the bony fish in the bay, and is liberal in his application of them to the land. He usually puts on 2,000 to 2,500 per acre. He applies them in various ways. Sometimes he spreads them broadcast, on pasture lands, in the month of June, which

he plows up for corn the following spring; but more generally, they are applied round the corn, the second time hoeing; or they are made into a compost, which is certainly the least offensive and most economical method. The rotation here, is corn, barley, or oats, then wheat, followed by grass from five to seven years. Mr. S. gets large crops; corn, 50 bushels per acre, on an average; wheat, 25 bushels; hay, 2 tons. While on his farm, we saw many acres of grass just ready to cut, which we are confident would turn out 2 to 3½ tons per acre. It stood nearly breast high and seemingly as thick as it was possible to grow.

A very fine, sweet, juicy, red-streak apple originated on this island. We think it a valuable variety, and our nurserymen would do well to cultivate it. It is particularly well relished by swine, and fattens them very rapidly. It is sometimes called the "Hog Sweeting," but this is really too vulgar a name; we, therefore, recommend that of the "Syosset," the Indian name for Oyster Bay, or call it the Ludlum Sweeting, or Ludlum Red-streak.

Wm. S. McCoun, Esq., has recently left the practice of law, in this city, and settled as a farmer, on Oyster Bay. He has built him a charming Gothic cottage, in a quiet little valley, and surrounded it with pretty grounds, an ample garden, and commodious out-buildings. He follows the usual rotation, but pays more attention to corn, of which he has raised some excellent crops. He is gradually getting his farm into a high state of cultivation, and is an excellent example to his neighbors—spirited, at the same time very judicious in his outlays and improvements. We are under many obligations to him for his kind attention, while on the island.

A short distance from him, is the country residence of Judge McCoun. It is a fine old place, and commands a beautiful prospect of the bay and surrounding country.

Cultivation of Grapes.—Judge Concklin, of Cold Spring, has planted about three acres with the Isabella and Catawba grape. The ground is terraced, and the vines trained on horizontal bars, fastened to upright posts. His vineyard usually bears well, and he is now extending it. The Judge not being at home, we lost the opportunity of obtaining more particular information regarding his success in growing this delicious fruit.

At Cold Spring Harbor, we called on Mr. David W. Jones. He has a good farm, beautifully situated, and commanding a fine water prospect. He paid great attention to stock, formerly, and still has some fine animals left. His Durham cow, Sylph, is a choice animal and an excellent milker. He possesses several others, also, and a few blood horses. We regret to say, that we had not time to linger longer and obtain more particulars of Mr. J.'s farming operations.

Mr. John H. Jones, has a splendid farm of 500 acres, farther up the harbor. This is under a high state of cultivation. Hay, corn, and wheat are his principal products. Aside from farming, Mr. Jones is extensively engaged in merchandise, the manufacture of woollen cloths, ship building, whaling, &c., all which multifarious operations, he superintends personally. He is one of the most active men on the island; and we are happy to add, has been highly successful in nearly everything in which he has been engaged.

PHILOSOPHY OF THE ROTATION OF CROPS.

On this subject, there are two theories:—1. That, while the continuous cultivation of any one crop on the same land deprives the soil of the specific nourishment essential to its growth and perfection, another plant, requiring food of a different character, may be substituted therefor. 2. Of the nutriment which vegetables imbibe and digest, they exude an inconsumable, or innutritive portion of their roots. This excrementitious matter, in many plants, is supposed to poison or render the soil unfit for a second crop of the same kind, until it is either consumed, or neutralized, by cultivation. Hence, the reason why it is often so difficult to obtain a good yield of the same kind of crop on land for three or more consecutive years.

In corroboration of the latter theory, it is stated that the turnip and some other root crops, from the great development of their broad, gas-collecting leaves, are comparatively independent of the soil for their nourishment; and that they possess the property of adding to, rather than taking from, the quantity of vegetable matter in the soil, even when entirely removed; for land has been found after several years' cropping with turnips, all the produce having been carried off, absolutely richer in organic matter than at first, the plant having returned to the soil more than it had taken from it. On the contrary, however, the onion and the musk-melon, have been known to be cultivated annually, on the same ground for many years in succession, apparently without any signs of deterioration.

APPLE ORCHARDS.—NO. 9.

Apples often fall off prematurely from being eaten by the larvæ of a beautiful little insect, called the apple-worm moth (*Carpocapsa pomonella*). The habits and economy of this mischievous little pest have been satisfactorily pointed out by a writer in the London "Entomological Magazine," and a good account of it is also given by Dr. Harris, in his "Report on the Insects of Massachusetts Injurious to Vegetation," p. 353. The larvæ of this insect leave their chrysalides from the middle of June to the first of July, or at the time the young apples become well set. The moth now lays her eggs in the eye of the apple, one only in each, by introducing its long ovipositor between the leaves of the calyx, which form a tent above it, that effectually shields it from the inclemency of the weather, or other casualties.

"As soon as the egg hatches," says the writer above referred to, "the little grub gnaws a hole in the crown of the apple, and soon buries itself in its substance; and it is worthy of remark that the rind of the apple, as if to afford every facility to the destroyer, is thinner here than in any other part, and, consequently, more easily pierced. * * * The grub, controlled by an unvarying instinct, eats into the apple obliquely downwards, and, by thus avoiding the core and pips, in no way hinders its growth. At first, it makes but slow progress, being little bigger than a thread; but,

after a fortnight, its size and its operations have much increased. It has now eaten half way down the apple; and the position of the hole at the top, if the apple continue upright, or nearly so, is convenient for a purpose it has up to this time been used for; that is, as a pass to get rid of its little pellets of excrement, which are something like fine sawdust, or coarse sand. Another communication with the outer air is therefore required; and it must be so constructed as to allow the power of gravity to assist in keeping it clear. It is accordingly made directly downwards, towards that part of the apple which is lowest; and thus the trouble of thrusting the pellets upwards through the eye of the apple is saved, and a constant admission given to a supply of air, without any labor. The hole now made, is not, however, sufficiently open for an observer to gain by its means any knowledge of what is going on within; this is only to be obtained by cutting open a number of the apples, as they gradually advance towards ripeness; the hole is, however, very easily seen, from its always having adhering to it, on the outside, an accumulation of the little grains which have been thrust through. Having completed this work, the grub returns towards the centre of the apple, where he feeds at his ease. When within a few days of being full fed, he, for the first time, enters the core, through a round hole gnawed in the hard horny substance, which always separates the pips from the pulp of the fruit; and the destroyer now finds himself in that spacious chamber, which codlings, in particular, always have in their centre. From this time, he eats only the pips, never again tasting the more common pulp, which hitherto had satisfied his unsophisticated palate; now nothing less than the highly-flavored, aromatic kernels will suit his tooth; and on these, for a few days, he feasts in luxury. Somehow or other, the pips of an apple are connected with its growth, as the heart of an animal with its life. Injure the heart, an animal dies—injure the pips, an apple falls. Whether the fall of his house gives the tenant warning to quit, I cannot, say, but quit he does, and that almost immediately. He leaves the core, crawls along his breathing and clearing-out gallery, the mouth of which, before nearly closed, he gnaws into a smooth, round hole, which will permit him free passage, without hurting his fat, soft, round body; then out he comes, and, for the first time in his life finds himself in the open air. He now wanders about on the ground till he finds the stem of a tree; up this he climbs, and hides himself in some nice little crack in the bark. I should remark that the fall of the apple, the exit of the grub, and his wandering to this place of security, usually take place in the night time. In this situation he remains without stirring for a day or two, as if to rest himself after the uncommon fatigue of a two yards' march; he then gnaws away the bark a little, in order to get further in, out of the way of observation; and having made a smooth chamber, big enough for his wants, he spins a beautiful little milk-white, silken case, in which, after a few weeks, he becomes a chrysalis, and in this state remains throughout the winter, and until the following June, unless some unlucky, black-headed tit, running up the trunk, peeping into every cranny, and whistling out his merry see-saw, happens to spy him; in which case, he is plucked, without ceremony, from his retreat, and his last moments are spent in the bird's crop. But, supposing no such ill-fortune betide him, by the middle of June he is again on the wing, and hovering round the young apples on a midsummer evening as before. By burning weeds in your garden, at this time of the year, you will effectually drive away this little moth. If you have trees, the crops of which you value, make a smoking fire under each. It will put you to some inconvenience if your garden be near your house; but the apples will repay you for that."

As the apple worm instinctively leaves the fruit soon after it falls from the trees, it has been recommended to gather up all wind-fallen fruit daily, and give it to cattle or swine, in order to kill these insects, before they have time to escape. Mr. Joseph Burrelle, of Quincy, Massachusetts, in vol. xviii. of the "New England Farmer," says that, "if any old cloth is wound around, or hung in the crotches of the trees, the apple worms will conceal themselves therein; and by this means, thousands of them may be obtained and destroyed, from the time when they first begin to leave the apples, until the fruit is gathered."

PROTECTION OF BUILDINGS FROM LIGHTNING.

"If there be one time more than another," says a late writer on electricity, "in which man feels that he is entirely in the hands of One mightier than himself, in which all his personal pride sinks in the conviction of his utter helplessness, it is when the forked bolts of heaven glare about him with frightful brightness, and the dread artillery of the skies stuns him with its deafening peals, and shakes the very earth on which he treads. Then, I say, it is that his conscience tells him how entirely dependent he is; and how, in a moment, the next flash might be to him the instrument of death, without his having the slightest power to avert his fate. In respect to the other great and irresistible powers of nature, man, in some sort, seeks them out—the lightning's flash seeks out him. It is true he may go to shores where thunder storms are less violent, or to others where they are much more violent than in his own land; but regarding it generally, lightning is no respecter of time nor place; it was as much known to the ancients as to ourselves; it comes to us, so to speak, 'in season and out of season'—its geographical distribution is less restricted than that of any other of nature's great phenomena—tempests, perhaps, excepted."

With this startling admonition before him, let any one of the readers of these observations pause for a moment and count the number of lightning rods in his own neighborhood. Does he hesitate? He thinks there may be one on the village spire, and perhaps another on yon tall chimney; but where else, he knows not. Now he is led to ask What is the cause of this apparent neglect? Why this consummate audacity in trifling with the eternal laws of nature by erecting monuments and inviting down the fire of heaven, and providing no means of conducting it safely away? The leading reasons for this, are, first, the comparatively

few accidents by lightning; second, the very recent adoption of lightning protectors; third, the want of confidence in the efficacy of the latter; and fourth, their cost.

Although the extreme magnitude of accidents by lightning cannot be otherwise than recognized by all, and the almost certainty of some one or more buildings being the marked victims at every season; yet each man builds with the chance of his edifice not being the fatal one. Amongst so many, the chances are so much in his favor, that he will run the risk; or else he comes to the still more unphilosophical conclusion, that, as storm after storm has left him unscathed, so will he for ever be safe.

With regard to the very recent discovery of means of averting the effects of lightning, it will be remembered that it was not until the month of June, 1752, that mankind knew what lightning really was. Then it was that Dr. Franklin first drew down lightning from the clouds, by means of a kite, and proved its entire identity with electricity, which discovery led him to the construction of lightning conductors. But before treating of these, perhaps it may be interesting to give some of the precautions adopted by the ancients, in order to protect themselves against this "ethereal fire." According to Heroditus, the Thracians, in times of lightning, were in the habit of shooting arrows against the sky, to repel it from the earth. Augustus used to retire into a cave during thunder storms, on the strength of an opinion then prevalent, that lightning never penetrated into the ground more than five feet deep. The emperors of Japan, it is said, possessed a refinement on this mode, by building reservoirs above the caves, into which they retired, and kept them constantly filled with water, in order, as they thought, to put out the fire of the lightning. Augustus, who appears to have been terribly alarmed at this element, used, also, to wear a seal-skin cloak during storms, on account of its assumed protecting efficacy. The Romans used to build seal-skin tents into which the timid retired; and the shepherds of Cevennes, even at the present day, wear hat bands of serpent skins for the same purpose. Tiberius wore a chaplet of laurel, whenever he dreaded danger from a storm, with a belief that lightning never touched the foliage of the laurel. And it is a notorious fact, that the American Indians, whenever the sky wears the appearance of a thunder storm, quit their pursuits and take refuge under the nearest beech, with the full assurance that the electric bolts never scathe that tree.

If the ancients were thus industrious to use what, in their ignorance, they thought to be the means of safety against an agent, the nature of which they knew little or nothing, and the action of which they knew still less, how much more does it seem to be the duty of the present generations, who both understand this agent and the means of averting its effects, to avail themselves of the advantages of their knowledge, and employ the remedies they have at their command. Not a year passes without numerous cases of buildings being struck by lightning, for want of proper protection, particularly barns, which, in consequence of the humid gases ascending from the newly-gathered crops, are peculiarly liable to this injury. The necessity and value of lightning rods are obvious and need no further comment.

As scientific knowledge has now obtained its proper rank in our schools, but few of our readers can be ignorant of the fact, that all matter is divided into two general classes, *conductors* and *non-conductors* of electricity. These names, however, are only comparative; for the two classes gradually merge into each other, leaving the distinctive term merely an expression of degree. For instance, copper ranks very high in the scale of conductors; and air occupies a very low rank among insolators; yet, an electric shock will sooner pass through a short interval of air than along a long copper wire. This fact is dependent on a law, the due observance of which, can alone ensure the efficacy of any protecting apparatus. Another modification in a conducting body of a comparatively high rank, is its *capacity*, which exercises an important influence over its conducting power. Thus an electric charge, which will pass safely and quietly along an ordinary copper wire, will deflagrate and burn up, entirely, an extremely fine wire of the same kind of metal.

The most important things to be considered in the choice of lightning rods, are, that they should consist of good conducting materials; good capacity; and should have a good connexion with moisture in the earth. In addition to these, the area of their protecting influence should be regarded; the number of rods required for each building; their position in special cases; and the modes of arranging them.

With regard to the *conducting materials* employed in their construction, metal is undoubtedly the best, and the choice would seem to lie between copper and iron. M. Pouillet makes the conducting power of copper from 5½ to 6½ times that of iron; Dr. Priestly makes it 5 times as much; and Professor Faraday 6⅔ times as much; so that, after having determined the sectional area of an efficient copper rod, an iron one of about 6 times that area, will possess the same conducting power. Iron, however, will not make durable and efficient conductors, unless they are entirely coated with silver, gold, copper, or tin, in consequence of their liability to rust, or oxidate, by the action of the weather.

As to the *capacity* to be given to a rod, it has been decided by common consent, that, the *sectional area* of one composed of copper, should vary from a circle one half of an inch to three fourths of an inch in diameter, the larger area being for very tall conductors, and the smaller, for shorter ones. And now, in respect to the *form of the rods*, it is quite immaterial whether they be square, round, or flat; but let it be remembered, that, in all cases, each conductor should be as entire and as straight as possible, presenting a *single point* to the clouds, with the apex tipped with palladium, or gold.

Of all considerations, the most important is a good *connexion with the earth*, which is so very essential, that without this, all other precautions will be in vain. It is not enough that the conductor enter the earth; for it must penetrate it to some depth, in fact, till it reaches the subsoil, where it is well impregnated with water. In order to reduce the destructive action of this moisture (the oxydation of the metal), and at the same time to give the buried

portion of the conductor every facility for dissipating its charge, it is better that the rod should terminate by several branches in a sunken bed of well-burnt charcoal, wood ashes, or spent tan bark.

Another important point to be considered, is the *situation and position* in which the rods are to be placed after they are put up. In all cases, they should be elevated above every other point of attraction, at least, *four times the diameter of the area* to be protected; say, in a common-sized house from 10 to 15 feet above the top of the highest chimney, or other object extending above the roof. And as before intimated, the integrity and upright position of the rods should be maintained, as far as practicable, avoiding, also, all abrupt angles and short turns. If a house, barn, church, factory, &c., be located in the immediate neighborhood of each other, and only one of them be protected, the danger of all the others will, thereby be increased. The remedy, in such a case, is so obvious, that nothing is necessary to be added on that score.

The question now presents itself, How are the rods to be affixed to the building, by *conducting*, or by *insulating staples*. Our unequivocal reply would be, by conducting staples—not those covered with copal varnish, or insulated by necks of glass bottles, as has often been recommended by writers on this subject; for, let it be remembered, that the flash, which may have forced its way through many yards of air, would find no difficulty in passing so slight obstacles as these, if such a direction formed a part of the lightning's path previously prepared, or "felt out." It is a well-established truth, that, if a conductor pass near a mass of metal in tolerable connexion with the earth, the flash will sometimes divide itself between the two channels, one portion of it continuing its course down the rod, and the other portion leaving it to pursue the side path. Therefore, in order to alleviate this "lateral discharge," or deviation from the main channel, all suspected vicinal electrified bodies should be united to the conductor itself, by means of metallic wires or bands. Then, if the building is predisposed, by the antecedent inductive action, to share with the rod, in conveying away the fluid, let it be done in good sooth, without an explosion, without a *fracas*, as the French emphatically call it.

Conductors should neither be painted nor varnished, as that would diminish their conducting power. If made of iron, they should be coated with metal, as before suggested, and may be erected at either, or both sides, or ends of a building, at a distance of about four inches from the walls, supported by iron staples or wooden supports.

Thus we have endeavored to point out the necessity and value of lightning rods, and faithfully describe their chief characteristics, without entering much into theoretical speculations or trivial detail.

PRESERVATION OF CUCUMBERS.—In Germany and Poland, it is said barrels of cucumbers, of various sizes, and ages, headed up water tight, are preserved fresh, from one year to another, by immersing them in deep wells, where the uniform temperature and exclusion of the air seem to be the preserving agents.

BUTTER MAKING.

THAT portion of milk, of which butter is made, it is conceded by chemists, consists of minute globules of semi-fluid fat, about one ten thousandth part of an inch in diameter, each covered with a thin pellicle, or shell, of a peculiar substance, resembling curd, but slightly differing from it in composition. When set aside and left undisturbed, where the temperature of the air is about 50°F., these globules of fat, with their coatings, generally rise to the surface of the milk, within 24 hours, forming a thick, soft, white or yellowish crust, commonly known by the name of *cream*. This crust consists of two layers, the uppermost of which contains a larger proportion of butter than the under one.

After this cream has been kept in the dairy, four or five days, at a constant temperature of from 46° to 50°, and then violently agitated for a time, in a churn, or otherwise, at a certain temperature, the thin coatings burst, or are torn asunder, and the particles of half-fluid fat unite and form *butter*. The latter substance includes some of the thin envelopes of the fatty globules, with a little curd, sugar of milk, and a considerable proportion of water.

There are several facts known to the dairy maid, in the preparation of her butter, which are not without interest, both in a chemical, and in an economical, point of view. One is, butter obtained on the same farm, and by the same process, or method of churning, is frequently observed to be harder at one season of the year than at another; and even the same milk, under different management, yields butter of different degrees of hardness, at all seasons of the year. This has been satisfactorily and chemically explained, in stating, that the same milk, or cream, by the absorption of oxygen in greater or less abundance, produces a butter proportionably hard or soft. Yet, it must be conceded, that the presence of the air and oxygen, or their renewal, are not necessary to the operation of churning. For this can be as completely effected by prolonged agitation in a close vessel—by corking up the cream, for instance, in a glass bottle, and shaking it rapidly for nearly half an hour. When this is the case, the quality of the butter thus formed, and the changes which the milk, or cream, undergoes, are obviously entirely independent of any chemical influence from without.

In the process of churning, the oxygen of the atmosphere may exercise an influence upon the several ingredients which the milk contains. And it is highly probable, that churning with an excess of air, causes the envelopes to absorb oxygen, to become partially soluble, to thin off, and finally burst, and thus liberate the fatty matter within. It is equally probable, also, that, in ordinary churning, the presence of air exercises a real influence upon the process, by modifying its rapidity and the quality of the butter obtained. The form of the churn, therefore, which admits the air to the most intimate and renewed contact with the milk, or cream, may also facilitate the changes by which churning is attended.

It is supposed by some, that, if the cream for churning is not taken off whilst the milk is sweet, the butter cannot be good; but this is an error. Milk should stand, undisturbed, as long as it is

sound, before it is skimmed, in order to afford the most butter and that of the best kind. In cold weather, it may stand 6 or 7 days before it is skimmed; but in hot, close, or thundery weather, perhaps not more thad 10 or 12 hours. The cream will keep best on the milk, as long as the milk is sound; and the sooner it is churned after it is taken off, the sweeter the butter. And butter produced from sweet cream has the finest flavor, when fresh, and appears to keep longest without acquiring rancidly; but the buttermilk, so obtained, is poor and small in quantity. When the cream is intended for churning, however, it may be kept until it turns slightly sour; as then, the butter will the more readily "come." For, if churned when quite sweet, the operation will be tedious, and frequently fail. In occurrences of this kind, the dairy maids, of old, used to declare that the milk was "bewitched," and fearfully proceeded to devise some means of driving off the "spell." The cause of this, is the want of acidity, which is not the case when the cream is kept for a certain time. The addition of a little rennet, strong cheese, or vinegar, is the proper remedy in this case, and will cause it almost immediately to appear.

Milk, when scalded, it is said, yields the largest quantity of butter, which, if intended for immediate use, is agreeable to the palate, and meets with a ready sale; but if designed to be salted for long keeping, it is liable to acquire a rancid flavor. Besides, the process of scalding is troublesome, and the milk, after the removal of the cream, is poor and unfit for use.

During the operation of churning, it is very important that the milk, or cream, is brought to a proper temperature; say, from 58° to 60°. This can be ascertained by the use of a thermometer churn, and may be effected by means of hot or cold water. In summer, the churn may be kept cool by placing it in a tub of cold water, or by covering it with a cloth previously dipped; and in cool weather, a contrary effect may be produced by using hot water instead of cold. The churning may also be performed in a warm room, but not near a fire.

The butter, when churned, should first be worked in fresh, cold, spring water, so that it may become firm; and at the end of the fourth washing, some salt should be thrown into the water, in order to raise the color of the butter, as well as to wash or purge away the milk that may remain. Then, after thoroughly working the butter with a wooden slice, or spoon, and gently pressing it with a clean, wet towel, or with a clean, soft sponge, wrapped in a cloth, it will be fit for immediate use; but, if intended to be long preserved, let it be put up forthwith, in a cask, holding 60 or 70 lbs., and cured by a mixture of 1 part, by weight, of raw sugar; 1 part saltpetre; and 2 parts of best St. Ubes, Cadiz, Liverpool, or Turk's-Island salt, well incorporated together and reduced to a fine powder. One ounce of this mixture is enough to preserve a pound of butter; or if salt alone be used, one ounce to a pound will be sufficient. In working butter, the hands should not come in contact with it more than can possibly be helped.

When packed for sale, butter cannot be too firmly pressed into the cask, nor too carefully covered, to exclude the air. One of the best methods of doing this, is to fill up the pots, or casks, to within an inch of the top, and then lay on common coarse salt to the depth of three fourths of an inch, just before heading or covering them up.

Butter should never be kept unsalted till the next churning, for the purpose of mixing the two parcels together; for this injures the flavor and renders ever afterwards the whole mass too soft to become firm.

CAST-IRON GARDEN CHAIRS.

FIG. 39.

THESE utensils are made of various sizes and patterns, and if carefully used and kept well painted, they will resist the effects of the weather for hundreds of years. They form a handsome ornament for gardens, or pleasure grounds, and are often found very convenient to sit upon, which may be done without soiling the clothes. Prices, from $4.50 to $10.

AGRICULTURE OF THE CHINESE.—No. 6.

Egg-Hatching by Artificial Heat.—One of the greatest lions in Chusan is an old Chinaman, who, every spring, hatches thousands of ducks' eggs by artificial heat. His establishment is situated in the valley on the north side of the city of Tinghae, and is much resorted to by the officers of the troops and strangers who visit the island. The first question put to a sight seer who comes here, is, whether he has seen the hatching process, and if he has not, he is always recommended to pay a visit to the old Chinaman and his ducks.

When I set out upon this excursion for the first time, it was a beautiful morning in the end of May. The mist and vapor were rolling lazily along the sides of the hills which surrounded the plain on which the city of Tinghae is built; the Chinese, who are generally early risers, were already proceeding to their daily labors, and although the greater part of the laboring population are very poor, yet they seem contented and happy. Walking through the city, and out at the north gate, I

passed through some rice fields, the first crop of which had been just planted, and a five minutes' walk brought me to the poor man's cottage. He received me with Chinese politeness; asked me to sit down, and offered me tea and his pipe, two things always at hand in a Chinese house, and perfectly indispensable. Having civilly declined his offer, I asked permission to examine his hatching house, to which he immediately led the way.

The Chinese cottages generally, are wretched buildings of mud and stone, with damp earthen floors, scarcely fit for cattle to sleep in, and remind one of what Scottish cottages were a few years ago, but which now, happily, are among the things that were. My new friend's cottage was no exception to the general rule—bad-fitting, loose, creaking doors, paper windows, dirty and torn; ducks, geese, fowls, dogs, and pigs in the house and at the doors, and apparently having equal rights with their masters. Then there were children, grand children, and, for aught that I know, great grand children, all together, forming a most motley group, which, with their shaved heads, long tails, and strange costume, would have made a capital subject for the pencil of Cruikshank.

The hatching house was built at the side of the cottage, and was a kind of long shed, with mud walls, and thickly thatched with straw. Along the ends and down one side of the building are a number of round straw baskets, well plastered with mud, to prevent them from taking fire. In the bottom of each basket there is a tile placed, or rather the tile forms the bottom of the basket; upon this the fire acts, a small fire-place being below each basket. Upon the top of the basket there is a straw cover, which fits closely, and which is kept shut whilst the process is going on. In the centre of the shed are a number of large shelves placed one above another, upon which the eggs are laid at a certain stage of the process.

When the eggs are brought, they are put into the baskets, the fire is lighted below them, and a uniform heat kept up, ranging, as nearly as I could ascertain by some observations which I made with a thermometer, from 95° to 102°, but the Chinamen regulate the heat by their own feelings, and therefore it will of course vary considerably. In four or five days after the eggs have been subjected to this temperature, they are carefully taken out, one by one, to a door, in which a number of holes has been bored nearly the size of the eggs; they are then held against these holes, and the Chinamen look through them, and are able to tell whether they are good or not. If good, they are taken back, and replaced in their former quarters; if bad, they are of course excluded. In nine or ten days after this, that is, about fourteen days from the commencement, the eggs are taken from the baskets, and spread out on the shelves. Here no fire heat is applied, but they are covered over with cotton, and a kind of blanket, under which they remain about fourteen days more, when the young ducks burst their shells, and the shed teems with life. These shelves are large, and capable of holding many thousands of eggs; and when the hatching takes place, the sight is not a little curious. The natives who rear the young ducks, in the surrounding country, know exactly the day when they will be ready for removal, and in two days after the shell is burst, the whole of the little creatures are sold, and conveyed to their new quarters.

GARDEN IMPLEMENTS.

THE following minor garden tools will be found particularly useful, the present season, to any one possessing a garden:—

FIG. 40.

GARDEN TROWELS.—These implements, which are shown by fig. 40, are used to plant or take up for re-planting, herbaceous plants, very small trees, roots, &c.; they are also used for stirring the soil among tender plants in confined situations and loosening the roots. Prices, from 50 to 75 cents.

FIG. 41.

FIG. 42.

GARDEN RAKES.—These vary in the length and strength of their teeth, as well as in their number; they are used for covering seeds, raking weeds, or cut grass, smoothing and pulverizing surfaces, &c. Fig. 41—Prices, 25 cents to $1.25.

GRASS EDGING KNIVES.—These are fitted to a straight handle, and used for paring the edges of grass bordering walks, &c.; also, for cutting the outlines of sods, which may then be readily raised by the spade. Fig. 42—Price 75 cents.

FIG. 43.

FIG. 44.

FIG. 45.

GARDEN HOES.—These are of various sizes and patterns, and are adapted for weeding out beds of different descriptions. Fig. 43 is a fork-backed hoe; fig. 44, a triangular hoe; fig. 45, a pronged hoe; fig. 46, a square hoe; fig. 47, a half-round hoe, all of which are made of cast steel. Prices, from 37½ cents to $1.

FIG. 46.

FIG. 47.

THE COW—HER DISEASES AND MANAGEMENT.—No. 2.

Blest cow! thy praise shall still my notes employ,
Great source of health, delightful source of joy!
How oft I've fed thee with my fav'rite grain!
And roar'd like thee, to find thy children slain!
Ye swains, who know her various worth to prize,
Ah! house her well from winter's angry skies.
Potatoes, pumpkins, should her sadness cheer,
Corn from your crib, and mashes from your beer;
When spring returns she'll well acquit the loan,
And nurse your infants and her own.—*Barlow.*

Fevers.—This class of diseases, in the cow, arises from similar causes as those of the human race, such as extremes of heat and cold, excess in feeding, &c., and often the origin cannot be ascertained.

The symptoms which generally distinguish fever, are, the animal is seized with a trembling over the whole body; she then becomes hot and restless, with loss of appetite, but is continually anxious to drink; her eyes look dull and heavy; her head hangs down, with foam and froth issuing from the mouth; and she seems, at the same time, to be oppressed, now and then uttering a heavy and mournful groan.

On examining the pulse, at the neck, if the circulation of the blood is found to be very much hurried, the first step, in order to lessen this, is to let blood in a quantity in proportion to the violence of the fever; and this, at first should not be less than three or four pints. In the course of 24 hours, if the symptoms do not appear relieved, but rather seem to increase, the operation may be repeated. After bleeding, the cow should be placed in a situation moderately warm; but she should not be tempted to eat before there appears a real desire for food. In the mean time, she should be allowed the use of warm diluent drinks, such as gruel, warm water, &c.; and, along with these drinks, a dose of medicine may be given, to keep the body open, prepared according to the first formula prescribed for a cold, at p. 142, of the present volume. This treatment is to be followed up by the use of medicines, which have a tendency to open the pores of the skin; and the following prescription will best answer this purpose, given at one dose, in a quart or three pints of ale, with a little allspice:—

Gum of myrrh, ¾ of an ounce; powdered valerian, ¾ oz.; assafœtida, 3 drachms; safron, 3 drachms; camphor, ¾ drachm; opium, ¾ drachm; mustard, ¾ oz.; saltpetre (nitre), ¾ oz.

These means are to be regularly continued, according to the judgment of the practitioner, till a turn of the fever takes place, which may be known by the return of the appetite of the animal. The diet, most suitable for her recovery, should consist of sweet hay, malt mashes, Indian meal, or anything else of a restorative nature.

Fevers, in cows, are never to be accounted fatal, and if timely attended to, will always yield to treatment like the above.

Garget in the Limbs.—This disease, which is also termed "hide bound," "joint yellows," and "constitutional rheumatic weakness," is most frequently caused by heats and colds; and the draught ox is more subject to it than the cow. The effect of this cause, is to produce obstructed perspiration, which, if it does not occasion inflammation of the lungs, liver, or bowels, induces a general stiffness of the surface, particularly in the joints, where motion takes place. This disease is more ready to occur when the animal is in a bad or morbid state of the body, from improper feeding, &c.

The first symptoms of the disease are exactly the same as those which appear on the early attack of a common cold (see p. 142). These indications are succeeded by those peculiar to the distemper; the coat of the animal soon appears of a rusty color; the hair stands on end; the hide adheres to the body so tight, that it is moved with some difficulty from the ribs, and even will crack in the attempt; when pinched on the back, in order to raise the cow up, it gives her great pain, which she shows by bending almost to the ground, attended with moaning or grunting. At the same time, motion is equally disliked; and if forced to walk, it is done with great difficulty, from the stiffness of the limbs; and the exertion even causes a violent heaving or working of the flank. Where the disease has been of long standing, the limbs, on attempting to walk, seem to crack like the breaking of sticks; and not unfrequently, there prevails a swelling of the joints, and also of the udder. In this disease, the appetite is much impaired, and little or nothing is eaten; fever comes on in its progress, marked by strong pulse, dryness of the nose, and frequent grinding of the teeth. And during the whole period of the malady, the body is in a costive state.

The natural effect which attends the above symptoms, is to excite inflammation; bleeding, therefore, is thought to be absolutely necessary. In spite of the appearance of the animal seeming low and lean in flesh, a circumstance always conspicuous where the malady has continued long, the bleeding should consist of a pint and a half to a quart at a time; and if the fever continue, it may occasionally be repeated. When the bleeding is over, the following dose may be mixed together and given, milk-warm, in two quarts of water gruel and half a pint of molasses:—

Sulphur, from 9 oz. to 1 lb.; grains of Paradise (cardamoms), 3 drachms; saltpetre 1½ oz.; tumeric, ¾ oz.; cummin seed, ¾ oz.

This medicine generally operates briskly, and will sometimes continue for 10 or 12 hours. After its operation is over, the following combination will be proper, mixed together and given at one dose to the animal, in three pints of good ale, with the addition of a handful of chopped rue:—

Flour of sulphur, 3 oz.; saltpetre, 1½ oz.; grains of Paradise, 3 drachms; valerian, ¾ oz.; cummin seed, ¾ oz.; anise seed, ¾ oz.; gentian, ¾ oz.

This mixture may be repeated every day till recovery takes place, which seldom requires more than five or six doses.

Pegging with garget or poke-berry root (*Phytolacca decandra*), it is believed has been tried with success, as will be seen by referring to p. 159. This operation is confined to the dewlap, and consists either in one large incision, or several small ones, through the skin, which requires to be raised from the cellular substance on each side. The wounded part, or parts, is then to be filled with some irritating matter, either in the form of powder, ointment, leaves, or roots, which, in exciting inflammation, will form matter, or pus, and thus

promote a discharge externally, in order to relieve the internal affection, or make the revulsion complete from the seat of the disease. By this operation, the inflammation excited must be considerable, and the extent of the incision should therefore correspond to the nature of the case. In all instances, where this operation is employed, the incision should be continued open for a length of time, both that the existing symptoms may be relieved, and also, that the danger of any relapse may be prevented.

FARMERS IN THE ASCENDANT.

THE occupations of the members and officers of the House of Assembly, for New York, at the late session, were as follows :—Fifty-four farmers, eighteen mechanics, three physicians, nineteen lawyers, eighteen merchants, five gentlemen, three manufacturers, three clerks, one mariner, one engineer, one ferryman, one hotel keeper, one lithographer, and two editors; the farmers being about 42 per cent. of the whole number. It is this strong sprinkling of intelligent farmers among our rulers, which makes them so liberal in the encouragement of agriculture, and which we think has tended more than anything else to push New York ahead of all other states in the support of internal improvements, and the development of her natural resources. An intelligent farmer sees at once, that, in order to make his profession efficient, those composing it must be well educated; hence his liberality in diffusing elementary works on agriculture among the district schools, and the generous grants to the state and county agricultural societies.

LETTERS FROM VIRGINIA.—No. 7.

SINCE my last letter, I have been spending a few days in that portion of Loudon county, chiefly in the occupation of individuals belonging to the society of Friends; and I know not when I have enjoyed myself more pleasantly or agreeably, or have been more deeply interested than during this brief visit.

At Waterford, some five or six miles north-easterly from Leesburg, there is a small settlement of these people, consisting of some twenty or twenty-five families, the greater portion of whom are engaged in the cultivation of the soil; and in the vicinity of Goose Creek, at about the same distance, in a northerly, or north-westerly direction from Leesburg, there are some sixty or seventy families, of the peculiar tenets of whose religious faith it is uncessary for me to speak; but if the habitual practice of the purest morality, in all the relations of domestic and social intercourse, if incorruptible integrity, uniform kindness, and good will to all, who come within the sphere of their influence, quiet, systematic, and well-directed industry, and an enlightened appreciation of the claims of an advancing civilization constitute an essential portion of true Christianity, I am sure these primitive and single-hearted disciples of William Penn and George Fox cannot be "far from the kingdom of heaven." I am very confident that no one, however inveterate, or strong may be his prejudices against this sect, can pass a week among them, mingling freely with them, inspecting the internal and external arrangements of their households and farms, attending their "solemn assemblies," and acquainting himself with the principles and economy of their institutions, without being forcibly impressed with the practical superiority of their communities in all those elements which go to make up the staple of human happiness and prosperity. There is an atmosphere of "brotherly love," kindness, benevolence, industry, contentment, quietness, and peace, which speaks volumes in their favor, and speedily disarms that worldly-minded intolerance and supercilious bigotry, which would rank these people with the fanatics and enthusiasts, whose vagaries have so often proved fatal alike to their possessors and to society at large.

At Spring Dale, pleasantly located on the banks of Goose Creek, and surrounded by the most romantic and enticing forest scenery, and in the midst of a rural hamlet of farm houses, is an institution for the education of young girls, under the immediate charge of Samuel M. Janney, a prominent member of the society of Friends, and a very intelligent, refined, and cultivated man. Between thirty and forty pupils were in attendance at the period of my visit, all of whom were inmates of the family of Mr. J. and under the immediate charge of his wife and sisters. The course of instruction includes all the branches of a good English education, accompanied by the purest and most elevated moral and religious culture. And the pupils enjoy the additional advantage of an excellent and well-selected library, and a valuable chemical and philosophical apparatus; and all this including board, washing, and lodging, for ten months in the year, at the low price of $100. Mr. J. cultivates only about ten or fifteen acres of land; but he seems disposed to make the best of this, and has introduced a variety of machinery, propelled by water, to aid him in its efficient management, and to provide for the wants of his large family. The meeting house, at which Mr. J. generally officiates on the Sabbath, is situated about a quarter of a mile's distance from the school; and in its immediate vicinity is a brick school house, for boys, under the charge of his son.

Many of the farms in this neighborhood are such as would do no discredit to the most fertile portions and the most enlightened agriculturists of the empire state. Although located in a hilly, and even mountainous region, accessible only by roads, which, during the fall and winter seasons, are scarcely passable, even on horseback, and quite remote from the great market towns; these enterprising occupants have succeeded in rendering them eminently productive and highly valuable. The average price of land, in this neighborhood, is considerably higher than in that of Leesburg, notwithstanding the numerous advantages of the latter. From $50 to $60 per acre can generally be commanded; and few are willing to sell even at these prices. Much is undoubtedly due to the strong desire of these people to form and keep up a neighborhood of their own, where they may enjoy their common religious faith; but even a cursory examination of their farms will serve to convince any one at all conversant with scientific agriculture, that, where nature has been propitious, her bounties and gifts have been appreciated and improved, and where she has bestowed her favors with a niggard hand, industry,

skill, and culture have endeavored, not without marked success, to remedy the deficiency.

Having enjoyed but a limited opportunity of inspecting the farms in this extensive neighborhood, I feel that it would be invidious and unjust to particularize, where all are, undoubtedly, excellent; but I cannot omit referring to the large farm and extensive fruit and flower nursery of Yeardly Taylor, and to the highly-cultivated grounds of John Smith, Elisha Janney, and their immediate neighbors, which I enjoyed an opportunity of seeing. The perfect neatness and order which everywhere prevailed—the entire absence of brush wood, weeds, stones, &c.—the long ranges of stone fence—the commodious and convenient out-buildings—the abundance of fruit trees of every variety, and the systematic allotment of the various crops of grain, grass, and vegetables—all bespoke the presence of an enlightened and efficient system of tillage and husbandry.

I am told that these settlements of Friends are increasing in various directions in this state; that a large colony has recently purchased several thousand acres in the neighborhood of Mount Vernon; and that numerous accessions from Pennsylvania, New Jersey, and the northern states are soon expected. A better, or more unexceptionable class of immigrants, could not be desired; and I venture the prediction that in whatever community this excellent people cast their lot, there, not only will the value of the soil be rapidly enhanced, but the general aspect of husbandry improved, and the happiness and well-being of individuals and families augmented and promoted. Their views of religion have been adopted from principle; have been maintained in their primitive purity and simplicity, through evil and through good report; and are eminently productive of "good fruits" to themselves and to the community. Indulging no evil passions, conforming to no worldly views of aggrandizement, wealth, nor power—coming in conflict with no forms of violence, oppression nor tyranny, and fermenting no disturbances, they seek only so to improve the opportunittes God has bestowed upon them, and so to fulfil the destiny committed to their charge, as to deserve well at the hands of their fellow men and secure the approbation of their Maker.

A New-Yorker.

To Stop the Progress of Decay in Old Trees.—Choose a dry day for the operation, and have the decayed wood cleaned completely, and carefully out, so as to leave none to spread infection again to the sound part. Have ready, in a vessel that can be kept hot in the garden, or orchard, a mixture of one part rosin, and three parts clean grease, which, while hot, apply with a paint brush, if the cavity be small, or a white-wash brush if it be large, and put a thick covering of it over the newly-exposed wood; then fill the hollow with earth. I have known a very old and much decayed tree so treated, that seemed to be completely renovated, and continued to flourish for many years, and would probably still have survived, had it not been blown down during a severe ice storm three years ago. E. S.

LETTERS OF R. L. ALLEN.—No. 4.

My limited time did not permit my saying all I intended in "Letter No. 2," in March number, on the subjects there touched upon, and I shall here briefly add what I deem essential for the present.

Although one of the first and most important steps towards a general and thorough agricultural improvement in the southwest, yet there would be no little inconvenience attending the organization of societies for this purpose, in many sections of this country, from the difficulty of drawing large bodies together, except at considerable sacrifice of time and expense. But in every state there are one or more central points, where planters and farmers could assemble with little inconvenience; and these might become the rallying points for all those disposed to learn, or compare their own efforts with those of their associates. Let there be one leading society at least, in every state, and as many county, or local associations as may be deemed expedient, or could be well sustained. If the localities for the annual meetings, exhibitions, and the officers, were judiciously selected, and the proceedings directed by such intelligent minds as every community affords, there is no question of the beneficial results. But there is too often a radical mistake in some important feature, which often defeats exertions that might otherwise be eminently successful. An instance is afforded in the State Society of Louisiana.

The annual exhibition in this state, has heretofore been held at Baton Rouge, since the recently-adopted constitution made the political capital of the state, and certainly much nearer the geographical center than its commercial emporium. Yet, although surrounded by an intelligent agricultural population, who exhibit some of the best plantations in the south, the annual meetings have hitherto failed to command that general attendance and interest, which it was the object of the society to secure. There has consequently been no enthusiasm awakened, and no benefits derived, which were to have been expected from an extensive, flourishing, and almost purely agricultural state. Had this association held its annual meetings in this city, though occupying one of its remotest corners, and almost exclusively commercial in its character, it would have concentrated the attention of a large body of the planters, whose business annually calls them here, and who could attend the exhibition and contribute to its interest by their various productions, with a tithe of the inconvenience to which they would be subjected, even if held within 15 or 20 miles of their residence.

With agriculture, there might be advantageously associated, in this place, her handmaids, the mechanic arts. Here, more than in any other part of the state, are they to be found in abundance and perfection; and by their combination, an interest would be excited, and a benefit felt which could nowhere else be realized. Here, might start into full life and vigor, a *Southern American Institute*, to become in time, not an unworthy rival of her elder sister of New York. Such an institution, properly organized, wisely and energetically conducted, would astonish even Louisiana herself, by the variety and perfection of many of her contributors. It would stimulate ambition, excite in-

quiry, induce investigation, inform the public mind, and carry forward improvements far beyond the anticipations of the most sanguine and enthusiastic. Whoever may become the founders of such an institution will have fairly earned the lasting gratitude of the state.

Economy of labor, by the adoption of the best implements, is a subject not sufficiently heeded. The adoption of the cast-iron plow, with its renewable points, or shares, which, with a trifling expense for their first cost, can, in a moment, replace those worn out or broken, and thus effectually repair the plow, is calculated to abridge labor to a large extent. Many planters have assured me, that plows equal to such as they can purchase for $4, of the best eastern make, they cannot manufacture at home nor procure in their neighborhood under $7, and that the repairs, on the latter, before the first mould wears out, will cost $4 or $5 more; thus making a useless expense to them of two or three times the necessary cost of this implement.

Much time is also wasted by the neglect to provide a greater variety of implements. With many, the plow and hoe are made to cultivate the entire crop; while the cultivator, the harrow, and other implements are never used. These last will frequently do what the plow cannot, and accomplish the same work at one third the expense. Some will have but a single size and style of plow to perform all their labor. This must give either a very imperfect breaking up, or first plowing, or a most unwieldly and unnecessarily fatiguing process of cultivation. The use of the corn planter, which will drop a uniform quantity, at regular distances, and at any required depth, with one mule and hand only, and furrow, drop, cover, and roll 10 to 12 acres of corn, beans, peas, or cotton per day, would seem to be a very desirable labor-saving machine for extensive planting, yet few are in use; not from an apprehension that they will not answer the purpose, but apparently because it is not an object to save labor. The same is true of corn shellers, straw cutters, manure and pitch forks, scythes, grain cradles, fanning mills, rakes, &c., &c., which would greatly abridge labor; yet, if we except some of the best plantations, not one in ten of the remaining ones through the south, have a single one of the foregoing implements. One gentleman told me recently that he was called upon, with some others, to appraise an estate which was cheaply estimated at $160,000, and after deducting a few new plows, all the farming implements that were, and had been, in use for carrying on the plantation, were dearly estimated at $25; and he added, "he would not have sent 300 yards to have received them gratis."

Simplicity is desirable in all operations, and especially is it among such laborers, as are proverbially careless and ignorant. Yet perfection, or considerable improvement, can only be achieved by a careful study of the best implements and adapting them to general use. I was struck by the statements made to me last fall, by Judge Van Bergen, of New York, of the large quantity of products, corn, hay, wheat, &c., he raised with an incredibly small number of laborers, and think his statement would be highly instructive to the public. All this was accomplished by the judicious selection and invention of such implements as were best calculated to subserve his purposes and accomplish what is of the highest importance throughout the United States, *the economy of labor*. The improvement in implements, constitutes one of the greatest aids to agricultural efforts of the present day, and if we neglect to avail ourselves of them, we forego the principal advantages that distinguish the present century from the last.

New Orleans, Feb. 7th, 1848.

THE DUCHESS TRIBE OF SHORT-HORNS.

THE following letter was received by George Vail, Esq., of Troy, from Mr. Bates, of Yorkshire, England, dated August 9th, 1847:- I forward you a paper with an account of the Yorkshire County Agricultural Society's meeting just held. I sent five animals, viz., 2d Oxford and her last five calves, to show the uniformity of the family; all obtained premiums [two first, and three second premiums]. Mr. T. Bell showed a calf, a grandson of your Hilpa, got by my 2d Duke of Oxford, which won the first premium for bull calves. The bull calf, shown by Mr. Maw, which won the 2d premium, was also got by a bull of my breeding. Mr. Maw also exhibited the 2d best bull under three years old, got by my Duke of Northumberland, and bred by Mr. Robt. Bell. Mr. Maw also showed Red Duke (of my stock), and which would have beaten Mr. Parkinson's bull Capt. Shaftoe, had he been in condition, being much superior to Shaftoe. Shaftoe was very fat, but his quality was bad, and though a year older than my 2d Duke of Oxford, was at least one fourth less in weight, with all his high feeding.

My 2d Oxford is from the same cow as the dam of your Wellington, and got by the same bull.

Nearly all the prize cattle of the Royal Agricultural Society's show (to which I sent nothing) this year, were at the Yorkshire show. Mr. Parkinson was sadly disappointed in not getting the first premium on Shaftoe; but there were many better bulls in the yard. This bull, Shaftoe, was shown in 1845, at the Highland Society's meeting at Dumfries, and was beaten by Mr. Harvey's Walton (of my breed), who got the 1st premium, and a son of my 2d Duke of Northumberland, won the second.

At the Royal Agricultural Society's show this year, Walton was shown and beaten by Shaftoe, who won the first premium there. The judges did not condescend to look at nor handle him; they were totally unfit for their office, never having owned nor bred a Short-Horn. It is a disgrace to the Royal Agricultural Society, that Walton, now shown for the third time at its meetings, has had the worst bulls each year placed before him.

Shaftoe was shown in 1844, at Richmond, where my Cleveland Lad 2d, won the 1st premium, and Shaftoe the 2d, beating Mr. Hopper's bull, Belleville. Thus my 2d Oxford beating Shaftoe this year was equally decisive as against Belleville. Belleville very improperly received, in 1846, the highest prize at each of the four greatest shows in England, Scotland, and Ireland.

My three Short-Horns that were placed second to others, were as superior to those placed before them, as the two that were placed first, in their

classes, and this was admitted by all who saw them.

Fat and size are too much looked at in decisions in England, as they please the eye.

I give you this detail, and send you five newspapers with accounts of the Yorkshire show, that you may show them at your great state show at Saratoga, and may send them to your newspapers and to Canada. I think you may state the near relationship of yours to these of mine. I do not doubt you will be successful with Hilpa at Saratoga. [Mr. Vail was so, and won the first prize. ED.]

REVIEW OF FEBRUARY NO. OF THE AGRICULTURIST.

Cultivation of the Sweet Potato.—In my late visit to the state of Maine, I was surprised to learn that this delicious vegetable had been grown in tolerable perfection so far north. But the great difficulty arises from the trouble of keeping the seed through the winter. Not one cellar in a hundred will answer; and the directions given by the editor, are not quite sufficient for that purpose. Besides having the tubers dry, and packed in dry sand, great care should be observed to select the roots all of about an equal, or medium size, perfectly sound, and the sand not only dry, but clean, and not from the sea beach; because that is more likely to absorb moisture. The best way to pack them, is in barrels, having a good many auger holes bored through the staves, into which wisps of straw must be stuffed to prevent the sand from running out. Every potato must be put in separate, and completely surrounded with sand; and if you have an upper room where you can keep the barrels without freezing, you will always have sweet potato seed. These directions are for the north; at the south, they would laugh at such a thing.

Apple Orchards, No. 6.—Indefiniteness in directions for the cure of any malady, or performing any work, I am always at war with. In directions to cure the blight, we are told to get a "whitewash brush, then get a large pot of double size." What for? Why won't a big kettle answer? Not one reader in ten will ever think the large pot is to hold anything but whitewash. [What can be more definite? A large pot of "double size;" that is, a pot, or *kettle*, if you please, filled with "soft glue," obtained from the skins of animals, but evaporated less than common glue, in order that it may be kept in a semi-fluid state.]

Cultivation of the Osier.—The article upon this subject is one of great value, particularly to the south, where the cultivation of osiers is more needed than in any other part of the world that I know of. Upon every cotton plantation, the use of baskets, in great numbers, is indispensable; and the annual wear of them is so great, that it is very difficult to obtain timber in many places to supply the want. Therefore, I would press upon the notice of planters, the immediate cultivation of the osier willow. The variety of uses to which osiers can be applied, do not begin to be enumerated in the article under review.

Live-apple Tree Posts, as suggested by the Massachusetts Ploughman, for permanent fence, is well worthy of serious consideration. I think the hint a valuable one. Let it be discussed.

Hydraulics for Farmers.—Is it possible that any sane man has read what has been published for a year or two past, without taking steps to provide himself with a machine to bring the water up the hill, or save the wear and tear of cattle and conscience, from going down after it, when situated just like the farmer spoken of by Mr. Bacon? Yes; hundreds. I know one man who is worth thousands of dollars, and who is what is called of sane mind, whose family bring every drop of water, forty rods up the hill, where, without the least trouble, a water ram could be set to work; and yet he takes no steps to provide one. Is such a man truly sane?

Consumption of Wood in the United States.—If there are upwards of 10,000,000 cords of wood consumed as fuel, every year, besides the enormous destruction of forests that is constantly going on, to prepare new land for cultivation, the time is indeed short, when this country will be one almost destitute of timber. I have heard the argument used, that railroads would equalize the supply, by bringing timber from plentiful regions, to places where it is most needed. This will be so for a short time; but railroads will constantly tend to make the evil greater, not only by inducing owners to clear up all the land along the lines, but when these roads once reach the widespread prairies of the west, the demand for timber will be more extensive at that end, than it will be at the eastern end of the roads. The only remedy for so great a calamity as a scarcity of timber among a people so accustomed to the extravagant use of it, as this Yankee nation, is an immediate, energetic commencement of a systematic planting and culture of trees for timber. Every agricultural society and paper should take the matter in hand. Many of the once-wooded districts of Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, and Virginia, are already suffering a destitution of timber; and few or no plantations are making to supply the dearth. The subject is very important. And so is the

Season for Cutting Timber.—So far as regards the right time for cutting all kinds of timber liable to powder post, I shall give my vote in favor of mid-summer.

Swine, No. 2.—You need not have gone to the Zoological Gardens of London, for a portrait of the wild boar, figured in this number. Indeed, I think I can discover almost a perfect likeness of the picture, in the lot of one of my neighbors, not a thousand miles from the City Hall of New York. And he insists upon it that the breed is just as good as any.

Education of Farmers.—I notice this article, not because I suppose that I can induce farmers to adopt a better; that is, an agricultural education for their children; for the fact is, their education is good enough now; if it were better, or what the editor of the Agriculturist would contend it ought to be, in twenty years' time, we, professional men, would be turned out of the Legislature and Congress, and our places all filled with farmers; and then what would this country come to, I should like to know?

Upon the subject of the grant of lands to the

western states allow me to explain. In the first place, all the land is laid off into townships of six miles square, sub-divided into sections one mile square; and these into fourths, eighths, and sixteenths; with all the sections in each township numbered from one to thirty-six. The one numbered sixteen is devoted to the use of common schools, for the benefit of all the inhabitants of that township. Sometimes these lots are very valuable, and at others utterly worthless; so that the benefits of this great grant of land, are very unequally distributed, and often, by bad management of the inhabitants, sadly wasted. Of the grants spoken of to colleges and academies, of course I know nothing; perhaps some western man will tell us what has become of this enormous fund. But at any rate, I have never heard of the first acre being appropriated to educate farmers, in the business of their calling.

I pray you, tell me if you can, is Mr. Smithson's magnificent bequest, likely ever to aid much in the education of American farmers? [No. Speculations on the origin of the Indians are more important.]

Hauling Fuel.—Burning green wood. I am willing to concede everything to the argument in favor of dry wood, so far as hauling is concerned; but not for all that is claimed in favor of entirely-seasoned wood for fuel. I am yet to learn what little I know of chemistry over again, if water itself cannot be consumed, and greatly increase the heat of the fire. And if half-seasoned hickory, beech, and maple wood will not make a more intense heat, than after it is fully and entirely seasoned, the quantity and time being equal, then I am no judge. [Pray, Captain Reviewer, did you ever consider how much heat is wasted in warming the sap in green wood, before you derive any benefit from it?] I would always have dry fuel, but I do not believe in the economy of burning nothing but dry fuel; particularly while I continue to sit by a good, old-fashioned New England fireplace, with a backlog and forestick.

Yankee Farming, No. 2.—Ship ahoy! Hello-o-o! Sargeant, what ship is that? I was "sartin sure" I knew you, as I hinted in my last; but you have now blown me out of my reckoning, and I "guess" you have put me down in your imagination, as a Corporal only of marines, and a "land lubber" to boot, instead of a Corporal in your smart militia company. I'll give up the "Corporal," and fall back upon the title by which my neighbors distinguish me, namely, "Captain," from having commanded a merchant ship, sailing out of Boston for several years. In describing Uncle Sim, I really did think I knew him, and *par consequence*, you also; but Aunt Nabby, the charming Molly, the boys, and above all, that "middle-sized, brindled-colored, bob-tail dog," has "clean done me up." I really don't know them, nor can I even "guess" now who they are. I've lost both my latitude and longitude, and did n't make land when I thought I had. It's a regular *mirage*. Well, Aunt Nabby is a character, that's a fact, with her voluble tongue, and lean, skinny form. How I should have been delighted to hear her eloquently holding forth upon "raisin' chickens and hatchin' ducks." O Sergeant, you let the "punkin sauce" burn too quick, and "put in your oar" before you were ordered, sailor fashion, and "gave way." Pray, let us hear Aunt Nabby again. But take care, Sergeant, that you do not let the cat *too far* out of the bag, or the fair lady may get her back up, and scratch your face yet. But I don't know when I have laughed more than I did over the mishap of Uncle Sim, shooting the Tom turkey for the owl—the "tarnal critter"—whom he was going to show "what eatin' chickens is!" Well, Sergeant, you are a capital fellow, so "heave ahead," and if I was mistaken in my man, and don't know you now, I shall hope to be so lucky as to make your acquaintance one of these days. I "give in," entirely, about the "Corporal," and will have no more of him. "Fath," as the Irishman said, "it isn't meself, at all, at all, me honey." However, the moral of the story is excellent. But what shall we do for those poor souls that never yet had occasion for a "poultry house," and are nearly "hooted" out of their seven senses by something worse than an "owl," every time there is a disturbance among the poultry of a night, upon the trees and fences surrounding the house and out-buildings?

Letters from Abroad—No. 1.—Description of the Douro country. True to the letter. I well recollect in my younger days, when second mate of a brig, bound in there for a cargo of wine, of gliding up the "pure, bright waters" of that river, and witnessed, also, the "soul-cheering spectacle" of gathering grapes, and treading out wine. I hope the writer will not forget to tell us about those elder berries, and the brandy they make use of, in brewing Port wine for us foreigners. The natives know better than to drink such stuff. They are satisfied with the *pure* juice of the grape.

How to Make Good Coffee.—Can that be good, which is not good, however good it may be made? Though I suppose that if I condemn the use of it, I shall condemn myself to the anathemas of a mightier host than I can war against at this time. So I shall leave all who desire to continue the use of a slow poison for a daily drink, to prepare it according to the directions given.—REVIEWER.

PLANTATION TOOLS.

I HAVE now in use some of the new plows made by Ruggles, Nourse & Mason. They were made higher on the beam, at my suggestion, and I assure you there is all the difference imaginable. And as a proof, that I am not thus influenced, because this is a whim of my own, I will inform you that Mr. Wm. Montgomery, a planter of full fifty years' standing, ordered two of the cast-iron plows, made by the above firm, last year, to try them; he was displeased with them, as he could not keep them from choking. Upon seeing my new plows, a few days since, he directed me to order some for him. Another neighbor has done the same thing. This is the best kind of reference.

I also have one of the improved drawing knives, and have had to order one dozen for other persons. There are six men making shingles within two or three miles of me; my knife was borrowed about three days; all six of the men now have knives of the same kind. Mine would have sold at $3. The price in New Orleans, is $1. This is the estimate placed on a good tool. With your northern

farmers, it may be, that they do not need a drawing knife as we do, as they can get a good one from $1 to $1.50; but with us, it is a rare chance if one out of five is worth a dime. Therefore, when we can buy a dozen good ones at once, it is really worth bragging of.

Another good implement I have—a steel weeding hoe. I have bought steel hoes for three past years; and had as much as I could do to make a crop set. With my present lot of hoes, I count upon making two crops certain, and with some of them three and four crops. There has been too much slop work made up and sent out south, on the score that anything will do for those folks; they don't know any better any how.

The above tools, I received from R. L. Allen, No. 75 Camp street, New Orleans, who will promptly attend to all orders—if I judge by his promptness to mine. I make the above statement for the benefit of the planting interest. As to the cast-iron plow, which many have an objection to, I beg to say, I have used two cast-iron plows this season, and have used them since 1844, inclusive, as much as I have any other plows. I have others that I have used one, two, and three years, and if I except last year, I might say, I have broken none. A neighbor, who came here to put my tools in order, remarked to me—"if that overseer you had last year would stay with you five years, he would break up all you ever made." At all events, I am determined to use no other plow. If the planter could get sharp, chilled points and shares at 6 cts. per lb. he certainly could not get his wrought-iron plows put in order so cheap, if the smith were in his own shop. And as to making a good plow of cast iron, I have seen two stout mules and two quick-running, stout horses, brought up in an instant by the plow striking a root, where it hung, requiring a strong negro to pull and tug for a minute or so, ere he could drive on. The plows in the outset, cost no more, and are not set out of shape by putting on a new point, nor a new share. I would recommend to the manufacturers to make the shares quite sharp and chilled; or self-sharpeners, and out of the best iron.

I would advise planters to buy four or five extra points to each plow, one bar, or land-side to every five plows, and buy a full set of one kind; thus will they be easily repaired, by making two into one, as they wear out. M. W. Philips.

Edwards, Miss., January 24th, 1848.

MODES OF DESTROYING RATS.

Dr. J. V. C. Smith, of Boston, stated, at a late meeting of the Massachusetts Legislative Agricultural Society, that he had had some experience in destroying rats and mice. The use of ratsbane (arsenic), he considered of very little service; as, after one or two have partaken of it, the others will not touch it. In England, he said, the work of destroying rats is followed as an employment. A person goes about the county and engages to destroy one or more hundred for a stipulated sum. He carries a large bag with him, which he sets open, and with a peice of hard-baked bread, covered with a preparation of the oil of anise and the oil of rhodium, entices them to enter, by means of the charming odor it emits, and thus is enabled to entrap the number required. Dr. S. said that he had tried the oil of anise alone, and that he had hardly time to leave the room before the rats took the bate; being so eager after it, that, seemingly, they would almost go through fire to obtain it.

Another method suggested, was to catch one or two rats, cover them well with tar and let them loose again. Upon this, the other rats will turn upon them, and, becoming themselves besmeared with the tar, will commence a civil war with one another, which will result in clearing them all from the premises.

Another mode had been tried with success, by mixing a table-spoonful of pulverized plaster of Paris, with a little sugar, in a tea-cupful of Indian meal. If the vermin eat this, it will cause them to die. Throwing pulverized potash in their pathways, it was stated will give them such sore feet that it will cause them to forsake their customary haunts.

ARTIFICIAL SWARMING OF BEES.

As the management of honey bees has been my sole business for these last twelve years, in the city of New York, I have thought it would not be amiss to give my own experience in a few particulars in regard to these industrious insects.

Artificial swarming is not generally practised in this country, owing probably to the want of sufficient practical skill in most of those who apply themselves to bee husbandry. For several years, I have divided my bees, not allowing them to swarm in the natural way; and I find a great advantage in so doing by reaping the full benefit of the stock. It saves the watching necessary in the case of natural swarms, and if conducted on right principles, it renders the artificial colony quite independent of the casualties to which they are liable. Moreover, it secures the multiplication of swarms in cases, where, if left to the natural process, there would be none. Should a continued spell of bad weather occur about the usual period of swarming, the old queen would have time and opportunity to destroy all the royal progeny (for the bees never oppose the queen mother in such cases), and thereby entirely frustrate the hope of multiplication by natural swarms. In order to avoid this evil, we must have recourse to artificial swarming. The general period proper for the operation, is about eight or ten days previous to the time when natural swarms might be looked for. At that time, it is likely that royal broods would be found in the combs; at all events, an abundance of eggs and larvæ, of workers, from which might be reared an artificial queen; the males, or drones, are also at this time numerous—a state of things indispensable, in order to secure success.

I had a number of hives which had not swarmed, probably owing to an unfavorable change of weather. In consequence of this delay, the reigning queen had an opportunity of putting to death her intended successors. In this state of things, from the crowded condition of the hives, a mass of bees, as large as a man's head, hung from the alighting board of each, while others were clustered on the outside of the hives. With these hives, I resolved to try artificial swarming. I cut out of another hive, a piece of brood comb, containing

eggs and larvæ of the proper age, about three days old, and fixed it in one of my principal hives. I then removed one of the hives which had an outlaying, or rather, an outhanging mass attached to its alighting board, instantly clapping down in its place, on the same board of the hive already prepared; then with a brush, I swept these bees off by the new hive, and all that I could get out of it. Next, I removed the old hive some distance from where it stood, and with the help of a hot sun, forced them to enter. They made a tremendous noise, and seemed much disconcerted at finding, instead of the rich combs with which they had hitherto been familiar, nothing but an empty hive. This agitation was kept up all day by the continued arrival of those bees which had been abroad when the substitution took place, adding greatly to the increase of the stock. At noon, the next day, I inspected the new establishment, and found, to my great satisfaction, that the experiment had completely succeeded. The foundations of six royal cells had been laid in the small piece of brood comb I had given them; in due time, the queen was hatched; the hive prospered, and I sold it for $25. At the end of the season, the hive was as good as any of my natural swarms.

Another experiment in forming artificial swarms, and the one I generally practise, is to drive about two thirds of the bees out of the old hive with their queen, into one that is empty. Then, I immediately replace the old hive on its former station, and remove the new one containing the queen, to a little distance. As the former will have a plenty of eggs and young brood, there will be no trouble in procuring another queen.

Of the experiment I am now about to detail, the sole object was to prove the existence of the power inherent in bees of rearing an artificial queen, when deprived, by any accident, of their original mother. This, indeed, had been proved before; but only incidentally, and I was anxious to put the matter beyond all doubt in my own mind, at least, by an experiment instituted exclusively for that object, to be conducted with minute and scrupulous accuracy.

In June, my observatory hive was full of bees, brood, and honey. The queen was very fertile and laying at the rate of about 100 eggs a day. I opened the hive and took her out, as I could see every bee within, and every cell in the comb. For about two hours, the bees continued their labors as earnestly and contentedly as if she were still with them. At the end of that time, they became aware of their loss, and all was instantly agitation and tumult. The bees hurried backwards and forwards over the comb, with a loud noise; they rushed in crowds to the door and out of the hive, as if going to swarm; and, in short, they exhibited all the symptoms of bereavement and despair. When night came on, they all went into their hive, and peace and tranquillity appeared to follow. Next morning, I observed they had laid the foundations of seven royal cells, having demolished the three cells contiguous to each of those containing eggs, or worms, which suited their purpose; and by the next morning, there were visible rudiments of five more royal cells, all in quarters of the comb where before there were nothing but eggs and common larvæ, of one or two days old. The bees paid all attention to these royal cells, as the operation advanced. On the seventh day, the first seven cells were sealed, and on the following day the other five. On the morning of the fourteenth day, from the removal of the old queen, seven young queens emerged from their cells, strong and active, and exactly resembling those produced in the usual way; and on the next morning, I had the other five come forth, equally active and strong. I watched the hive with all diligence, opened the door, and took out the queens as fast as they emerged from their cells, keeping them for the purpose of making artificial swarms. Some of them escaped my notice, after which I found them lifeless on the ground in front of the hive.

EDWARD TOWNLEY.

New York, May 1st, 1848.

CONSTRUCTION OF FARM COTTAGES.

IT has been justly remarked, that, a traveller, in passing through a strange, but civilized country, might form a correct judgment respecting the social condition of its rural inhabitants by observing attentively the state, character, and general appearance of their dwellings; and that, a clean, fresh, and well-ordered house exercises over its inmates a moral no less than a physical influence, and has a direct tendency to make the members of the family sober, peaceable, and considerate of the feelings and happiness of each other. Nor is it difficult to trace a connexion between habitual feelings of this sort, and the formation of habits of respect for propriety, for laws in general, and even for those higher duties and obligations, the observance of which no laws can enforce; whereas, a filthy, squalid, unwholesome dwelling, in which none of the decencies common to society, even in the lowest state of civilization, are known to exist, tends directly to make every dweller in such a hovel, regardless of the feelings and happiness of each other, selfish, and sensual; and the connexion is obvious between the constant indulgence of appetites and passions of this class, and the formation of habits of idleness, dishonesty, and even of crimes of higher degrees.

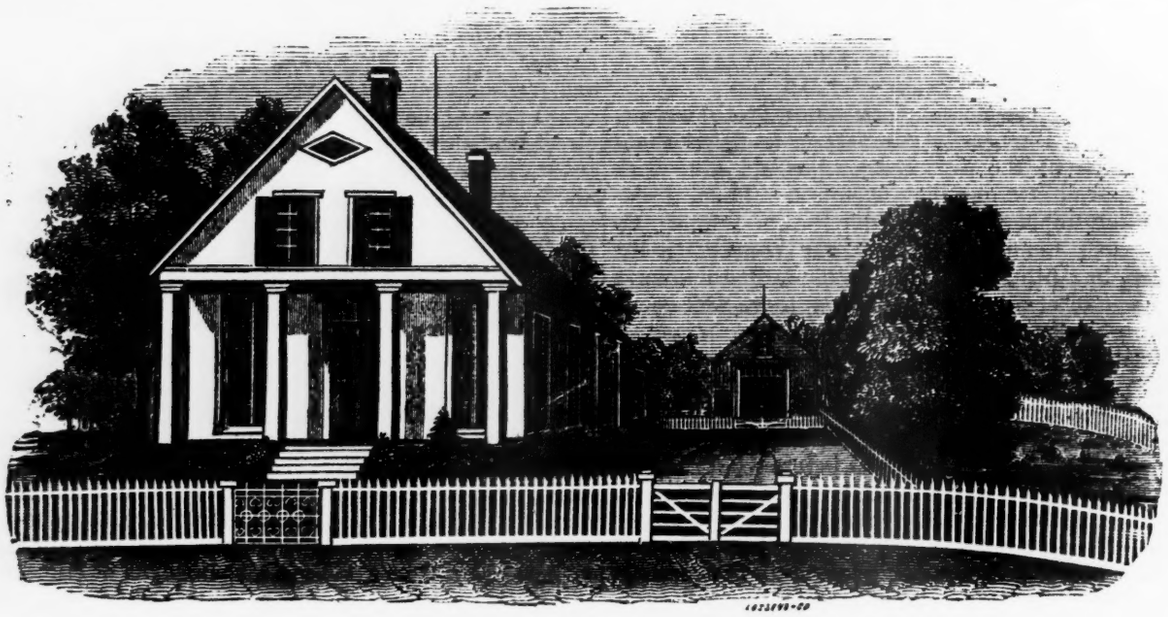
Thus, in travelling over the wide domain of the inhabited parts of the United States, one can judge, in a measure, of the character of the people by what is written in the expression of their dwellings. On leaving any of the Atlantic cities and progressing inland, he first passes through the motley and sometimes squalid suburbs, which chiefly owe their existence to the late unparalleled prosperity of commerce, the progress of manufactures, and their two indispensable concomitants—internal improvements and foreign immigration. Here, we may see cottages of every grade, color, and finish, which fancy, caprice, or carelessness might devise, with now and then, at the interval of a few miles, a stately mansion, in imitation of some purse-proud lord; or, on the brow of yon eminence, there may be seen a castle-like structure

"Embosomed high in tufted trees"—

reminding him, almost, that he is surrounded by the feudal oppressors, who long made sorrowful the homes of the Old World. As he advances onward, the road-side cottage, or diversified farm

house appear in every direction, often accompanied by its appropriate garden, orchard, and green; while, occasionally, he meets with the sweet rural village, the houses of which have sprung up by degrees, in detached groups, and arranged after no particular plan, with its rivulet and mill—its gardens and trees—its smiling pastures and green shady lanes, enlivened with poultry, cattle, and sheep, all of which awaken images of security and peace, cleanliness and health.

Again, as he proceeds, the eye of the observer is forcibly impressed with the more recently-built village, or larger town, projected on a regular, though less pleasing plan, with its right-angled streets, long rows of cottages, numerous churches, school-houses, factories, &c., evident marks of the industry, thrift, and "go-ahead-ativeness" of its people. And, as he reaches the more remote and thinly-inhabited interior, his attention is arrested, now and then, by a neat log cabin, with its large and commodious barn, erected on a handsomely-cultivated spot in the midst of a forest, or a prairie, showing that he is in a land lately reclaimed from nature, by the exertions of the immigrant, perhaps, from a foreign clime. To this bright picture, unfortunately, there are many, far too many, exceptions, particularly in a country where well-directed labor will, generally, more than contribute to the support of the artisan, when due economy and sobriety are observed. Without entering into a description of the habitations composing the squalid outskirts of almost every city, or populous town, or the wretched hovels, which line our public works, or those which poorly subserve the wants of the squatter, or trapper, of the west, we have not far to go to witness hundreds of dwellings constructed on no definite principles, either as regards taste or comeliness—comfort or convenience; and it is much to be regretted, no matter who may have been the cause of thus corrupting public taste, that the mania should have prevailed in this country for some years past, for building Gothic castles, with "pie-crust battle-



PERSPECTIVE VIEW OF A FARM COTTAGE.—FIG. 48.

ments" and gloomily painted in imitation of dark-brown stone; or for erecting fantastical and puerile "bird cages," with gew-gaw carvings and other like follies, for the habitations of civilized beings. It is not unfrequent that we find these "erections of fancy" completely embosomed in a thicket of trees, with their walls dampened and darkened full six months in the year; and even in the country, where land is cheap and abundant, we often meet with detached cottages, built in imitation of street houses in town, with the kitchen and living room in a basement, half under ground, throwing the fumes of the scullery, or wash room, into the parlor and other apartments above. Other things, equally absurb, might be pointed out, would the limited length of this paper permit, with regard to position, ventilation, light, heat, color, incongruity of materials, and internal arrangements, which are totally incompatible with republican principles, comfort, true taste, or common sense.

The main causes of the afore-named inconsistencies, are, that most of the houses in this country have been planned by persons who never have studied the first principles of domestic architecture, such as builders, carpenters, masons, bricklayers, &c.; or they have been designed by professed architects, in the common acceptation of the term, who may have turned their attention almost exclusively to the construction of public buildings, villas, baronial mansions, street houses in town; and have been reared in the rigid school of European precedent, if in any, imbued with prejudices at variance with the simplicity of our manners, our climate, reason, or sound taste.

It is unnecessary to dwell further on the moral, physical, and mechanical defects in our rural architecture, as it must be obvious to every reflecting and well-balanced mind, that serious and growing evils do exist, which loudly call for reform, and it is ardently hoped that the suggestion will not have been made in vain. And now to the immediate object before us.

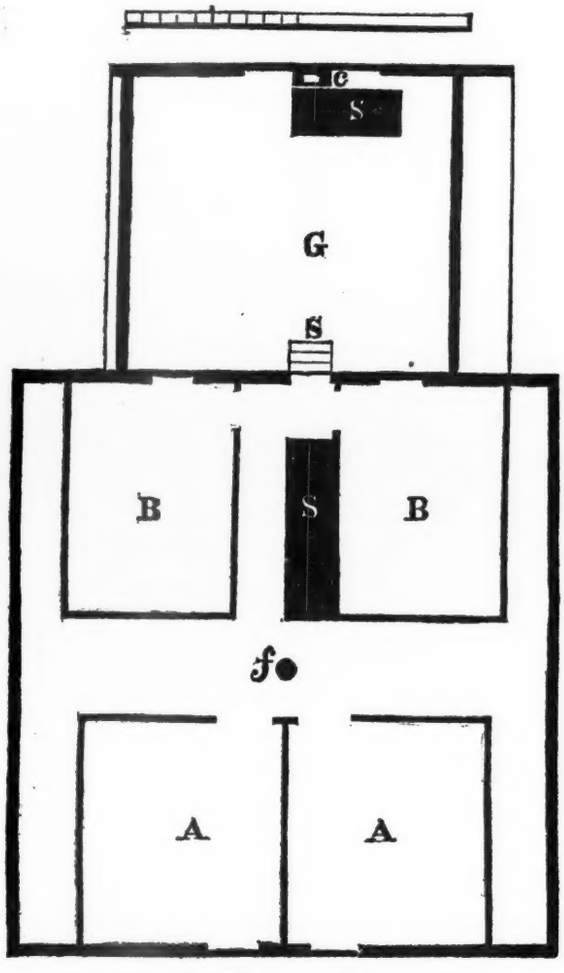
In the construction of a farm cottage the chief objects to be considered, are, 1st, the number and character of the people it is intended to accommodate; 2d, the expense, or present means and prospective ability of the proprietor; 3d, the position, in regard to exposure to the sun, and in affording convenience to the out-buildings, or other parts of the farm; 4th, consistency, or congruity, so far as it is considered as an object in landscape scenery, or relates to the nature of the materials of which it is constructed, the color and finish of the exterior and its fitness or adaptation in promoting health, comfort, and cheerfulness to the occupants within.

Those who possess but moderate means, and are unable to erect a more costly mansion, may build, in many situations, a very comfortable and convenient dwelling, for from $600 to $900, agreeably to the plans and elevation denoted by the adjoining cuts.

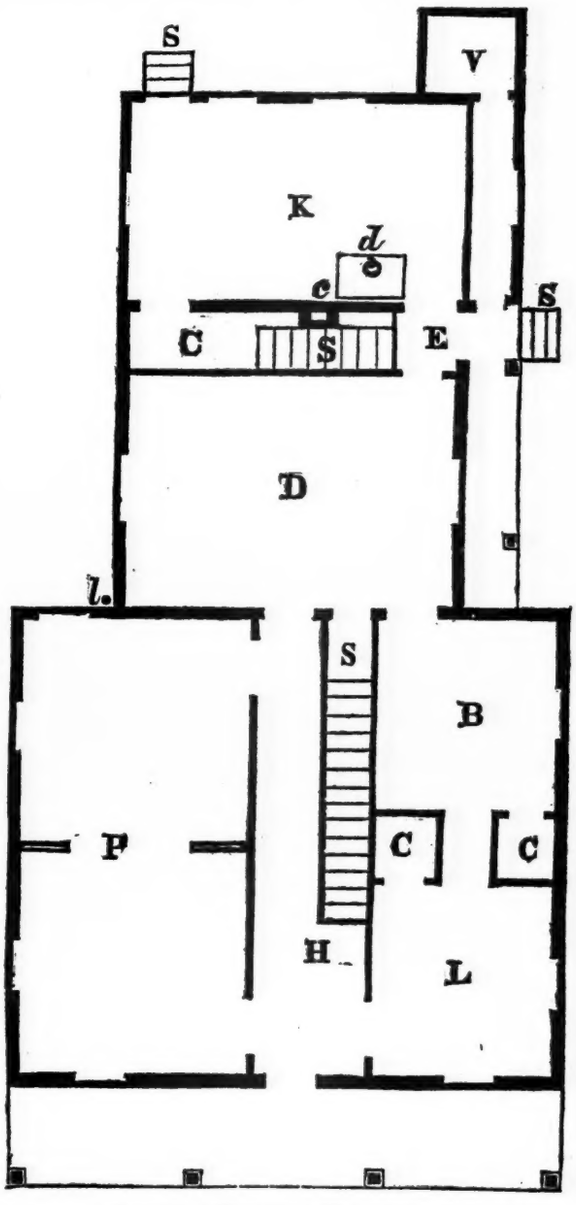
Description.—The main body of the cottage, fig. 48, is in the form of a parallelogram, 34 feet long, including the portico, and 32 feet wide, having

PLANS
OF A
FARM COTTAGE.

SCALE 10 FEET TO ¼ OF AN INCH.



ATTIC FLOOR.—FIG. 49.



GROUND FLOOR.—FIG. 50.

14-foot posts, 2 feet of which extend above the attic floor, sustaining a roof of a 16-foot pitch, with the gable end facing the south or south-west. The back part of the house, which extends to the kitchen, is 18 by 23 feet, including the verandah, with 10-foot posts, supporting a roof of a 11½-foot pitch, with the gable towards the north or north-east. The kitchen is 12 by 23 feet, including the passage to the vault, with 6-foot posts and a lean-to roof having a 4-foot pitch.

The whole building is designed to be elevated on a terrace, or mason work, 3 feet above the common level of the ground, to be built of wood, with the outer walls lined with bricks. The roofs, also, are designed to be built of wood, covered, either with common shingles, or water-proof cement.

On the centre of the main body of the house, a false chimney top is shown, which may be formed of metal, bricks, or artificial stone, for receiving the stove pipes from the rooms below. Those who

prefer fireplaces to furnaces, or stoves, can erect a chimney at each side of the cottage, extending their tops about 16 feet above the eaves. Between the dining room and kitchen, there is a chimney designed to communicate with the cooking range and stove in those parts of the house.

This cottage is designed to be entered from the front gate through a portico, 6 feet wide, extending across the whole width of the house. The entry of the kitchen and dining room is also designed to be passed into on the easterly side of the back part of the building, through a verandah, 3 feet wide.

The windows are all designed to be of good dimensions, and protected by wooden blinds. Towards the top of each gable end, there is a latticed window for ventilation, which may be closed at pleasure in stormy weather.

Under the entire floor of the main body of the house, a cellar is intended, with walls and arches laid in cement, to be entered by stairs from the dining room, and by a 6-foot door way, on the easterly side, from without. Beneath the kitchen, there is also another cellar, designed for storing wood, or coal, entered from the kitchen through a trap door, and likewise by a passage, on the easterly side, from out-doors. If circumstances require it, a dairy, or milk cellar, may also be constructed under the dining room, and lighted, or ventilated, by windows at each side of the house.

The whole building is designed to be protected from lightning by a half-inch copper rod, 48 feet in length, erected at the gable end near the back parlor window, and secured in its place by means of wooden props, extending from the roofs.

PLAN OF THE ATTIC.

A, A, fig. 50, denote two front bed rooms, 12 by 14 feet, entered independently of one another, from a lobby, 6 feet wide.

B, B, two back bed rooms, 10 by 14 feet, entered, also, independently of each other from the lobby at the head of the front stairs.

G, a back garret, communicating with the front part of the attic by a door at the steps S, and serves as a passage way to the kitchen and verandah, by the back stairs.

S, S, S, denote stair ways, or steps.

c, the chimney of the dining room and kitchen.

f, the stove funnel, communicating with the rooms below.

Between the wall plates and the bed rooms, spaces are left 3 or 4 feet wide, which may be found convenient for storage, &c.

PLAN OF THE GROUND FLOOR.

H, fig. 51, denotes the front lobby, or hall, 7 feet wide, including the front stairs.

P, a double parlor, 14 by 28 feet, with folding doors, communicating with the front lobby, or hall. Either, or both of these parlors might be used as sleeping apartments, should circumstances require.

L, a room, communicating with the front lobby, or hall, 11 by 12 feet, with a closet 4 feet square, and may be used for a library, office, living room, or nursery, according to the taste or wants of the occupant.

B, a bed room, designed for the head of the family, 11 by 12 feet, with a closet 4 feet square, and communicating with the library and dining room.

D, the dining room, 14 by 20 feet, communicating with the front lobby, H; the back entry, E, and the cellar at S.

K, the kitchen, 12 by 20 feet, communicating with the dining room by the back entry E, and a sliding window in the pantry C; with the wood cellar at *d*; and the back yard, by the steps S.

E, the back entry, 4 by 4 feet, communicating with the verandah, kitchen, dining room, and the back-garret stairs.

V, the vault, 5 by 6 feet, communicating with the verandah by a passage under cover, 3 feet wide.

C, C, C, closet, or pantries.

S, S, S, S, stair ways, or steps.

c, kitchen and dining-room chimney.

d, trap door, covering the wood-cellar stairs.

l, the lightning conductor.

The reader will bear in mind, that the dimensions of a house, built on the foregoing plan, may vary in size, or may be constructed of bricks or stone, as may best suit the taste, ability, and wants of the occupant; but the position, in regard to the sun, and the general arrangement, may be the same. A dwelling of this kind, let it be remembered, is not designed for a city, or village, where the buildings are prescribed in their limits, the architectural style of which, in order to break the monotony often observable in our larger towns, should be displayed in single and double cottages, neat and appropriate out-buildings, factories, churches, and other public structures.

For the guidance of those who have not given much thought to the subject, the following brief, though incomplete maxims on the construction of farm cottages, are offered, with a view of showing how far this important branch of rural economy has been neglected, or abused, in this country, and of calling out taste and talent for future improvement, or correction:—

1. It is recommended, that the diagonal line of the ground plan of a farm house be always in the direction of north and south, so that each of the four sides of the building may have, in the course of the day, the benefit of sunshine and shade.

2. It is preferable, that the gable end should present itself towards a public road, rather than the sides; but the position with regard to the sun should not be sacrificed for this. A detached cottage, thus located, may be advantageously seen at a considerable distance, perhaps, from every direction, offering a more pleasing appearance to the traveller as he passes along.

3. A cottage raised on a platform, or terrace, is more cheerful-looking than one, the floor of which, is on, or below, the level of the highway.

4. The grounds surrounding a farm house may be ornamented in various ways by means of trees, flowers, and shrubs, giving a beautiful effect to the landscape, and contributing, also, to the health and comfort of live stock. For instance, a sheep walk, or pasture, situated by the side of a farmery, may be so planted with scattered groups of oaks, maples, locusts, or elms, and clumps of cedars, hemlocks, and pines, as to present all the beauties of the lawn, and, at the same time, afford protection to the animals by shelter and shade. By intermingling fruit trees, flowers, and comely shrubs about the garden

and hedge rows, with a beautiful fountain of living water, in the vicinity of the buildings, will add greatly to the ornament, luxury, and comfort of every farm.

5. If fancy buildings are to be erected on a farm, different kinds of style may be employed; but in no single building should two or more styles appear. Thus, a Gothic cottage should be purely Gothic throughout; for, a structure of this sort would look exceedingly awkward under a far-projecting Italian roof. In like manner, a Swiss cottage presenting to view Grecian lines and forms, in any way, would be quite as much out of place. As a general rule, however, the appendages, or out-buildings, to a farm house should partake of the same architectural character as that of itself; but cases may occur wherein it would be advisable to depart from this rule.

6. A landscape gardener, possessing a rational and discerning taste, in making a design, will adopt such a style as will best produce a scenic effect. For instance, in a situation, backed by a rugged precipice, with straggling hemlocks, or other evergreens near by, approached, perhaps, by a rustic wooden bridge, thrown across a deep ravine, with no other dwellings in sight, a cottage built in imitation of a Swiss hermitage, would form a pleasing variety in the train of ideas that might run through the observer's mind. Again, in a location on a river bank, or hill side, with a dark back ground, and viewed at some distance from before, a structure in the form of a Grecian villa, would produce a desirable effect.

7. Costly and fantastic ornaments are considered quite out of taste in embellishing a farm cottage. A picturesque neatness and simplicity should be aimed at, rather than whimsical and childlike designs. It is not in good taste to place on buildings of this class, turrets and battlements, in imitation of pointed Gothic and old Scottish baronial edifices; nor to adorn them with painted windows, nor sacred and profane subjects, which can only be associated with the dark ages of ignorance, sorrow, and oppression. Neither is it in good taste to erect expensive columns, pilasters, and entablatures against a cottage of this kind, in the style of the temples of the ancient Greeks.

8. A wooden or mud-walled cottage, covered with a tiled or slate roof, is at variance with congruity; because the walls are constructed of less durable materials. On the other hand, walls built of brick, or stone, supporting a roof of wooden shingles, or thatch, is equally at variance with consistency and sound taste. So it may be said of rustic wooden pillars supporting solid mason work as well as of stone pillars sustaining nothing but wood.

9. The color of a farm cottage should be such as will be the most pleasing to the eye, and produce at the same time, the most harmonious effect in landscape scenery. In general, light, warm tints of various kinds, are to be preferred, such as straw color, yellow, reddish brown, lead color, and where a strong contrast is desirable with the back ground, chocolate color, or white. A safe rule to be observed by those who practice this art, is to paint every object in such a manner as will show at once the materials whereof it is composed—whether they be wood, plaster, iron, bricks, or stone.

10. An architectural expression may be given to cottages by projecting bases and wall plates; and an architectural style may be conveyed by the forms of the mouldings in window frames, door pannels, chimney tops, &c., and in general, by the lines, angles, and forms of the windows and roofs.

11. Every cottage should contain a verandah, portico, or entrance porch, contiguous to the entry, lobby, or hall; for, a porch, or verandah, shelters the entrance from wind, snow, or rain, besides adding comfort to the interior. In constructing an open portico, or porch, the floor may be paved with tiles, or flag stones, and the ceiling, if there are rooms above, should be plastered and overlaid with mortar, or cement, to keep out the cold.

12. Verge boards, or wind skews, which are confined to the gable ends of cottages, for preventing the wind from displacing the materials of the roof, are more expressive of their object, when formed of plain mouldings, than when they are weakened in appearance by childish carvings.

13. The windows of a cottage, when made large and high, with clear glass, give an expression of cheerfulness in the interior, particularly when they rise nearly, or quite up to the cornices of the rooms, and a proper state of ventilation is produced. In order to facilitate this, the upper portions of the sashes should be made to draw downwards from the top. Latticed windows, or those having blinds, are cheerful and picturesque, but they are sometimes so constructed, as to be ineffectual in keeping out wind and rain. Blank windows are deceptive objects, at best, and are never resorted to as expedients for producing symmetry and effect by designers whose taste is governed by the dictates of reason.

14. High and massive chimney tops, in a cold climate like ours, give a cottage an appearance of cheerfulness, because they are associated in the observer's mind with the glowing grates and comfortable firesides within. They should always rise boldly out of the roof, so as to give symmetrical effect, and maintain, at the same time, a conspicuous place. As various kinds of iron stoves, grates, and ranges are manufactured, and may be had at a moderate cost, the old-fashioned fireplace is generally dispensed with, except in certain parts of the country, where wood is plentiful, and mineral coal is not to be obtained. Besides, a great portion of the heat generated in a fireplace is absorbed by the mason work, and is wasted in the open air. If a fireplace be adopted at all, it should be formed in an interior wall and in a central part of the building. *And in no case, if it can be avoided, should a door way, opening into a room, be near to, nor on the same side of the apartment with the fireplace, or stove;* for it is well established, that, a door situated so as to open hard by a fireplace, destroys, in a great measure, the comfort of the room.

15. The kitchen, which is a most important appendage to every farm house, should be large, high, well lighted and ventilated, and should be placed near by, but not under, nor directly adjoining the dining room; nor should it be placed under, or contiguous to any other part of the main body of the

house, where the inmates would be annoyed by its heat, or fumes. The kitchen floor should be covered with fire-proof materials, as metal, bricks, tiles, or stone. The kitchen, or wood cellar, should also be provided with a brick oven, and a pump and sink, with proper drains for conveying off the wash.

16. One or more pantries are requisite in every cottage, and should there be but one only, that would be most convenient between the dining room and kitchen.

17. To every farm house, one or more cellars are indispensable, which should be kept dry, cool, and well ventilated in hot weather, and warm and secure from frost when it is cold. The walls should be well pointed with mortar, and during mild and warm weather, the windows should be left open, and protected by wire-cloth skreens from the invasion of vermin, or rats.

18. Bed rooms should be entered independently of each other from a common passage, and when separate, especially when reached by a stair case, are conducive to health and habits of cleanliness. In all cases, they should be well ventilated, and if this cannot be effected by external windows and doors, sliding windows, concealed by curtains within, may be constructed in the partitions, or interior walls.

YANKEE FARMING.—No. 5.

Good people all of every sort,
Give ear unto my song;
And if you find it wondrous short,
It cannot hold you long.

The Nine-Acre Meadow.—It was the first week in July, and the ruddy dawn was just beginning to streak the light clouds that lay floating in the eastern horizon, when Mr. Doolittle and his son William, each bearing a scythe, let down the two middle bars of a set of five, which mounted guard over one of his meadows; then thrusting themselves through the opening, they stood bolt upright amidst the tall grass, waving before a gentle western breeze, ready ripe for the harvest. This meadow had been in grass from time immemorial, and was the pride of my good neighbor's heart. It embraced about nine acres, and was most admirably cared for, in a manner which I may speak of hereafter. Suffice it to say for the present, that its average yield was from two to two and a half tons per acre, which, when people wanted to get on what they termed the "soft side" of Uncle Sim, they modestly stretched to three tons.

The Mowing Bee.—Upon the principle that "many hands make light work," Uncle Sim always got up a "mowing bee" when he cut this meadow, by inviting some half dozen or more of his neighbors to assist him. No one had yet made his appearance; so by way of preparation, and to try his scythe, Mr. Doolittle put in and cut down a few rods of a corner of the meadow; then pausing, set the upper end of the snath on the ground, took a handful of grass, wiped the blade clean, then with a long, flat scythe stone, which hung twisted into his leathern girdle, proceeded leisurely to whet off the wire edge. This nearly finished, he began an advisory discourse to his son.

Uncle Sim Teaches William how to Mow.—"Now, Billy, my boy, tho' I sez it, myself, 'taint 'old foxes like me that wants tutors;' howsomedever, 'him as thinks he knows most sometimes knows least;' so of all livin' things beware of consate; consate swallows a man up afore he knows it, like a snake does a frog; then there is nothin' on him left 'cept a big bunch in his belly. Wal, as I was sayin', tho I sez it myself, nobody can larn you better about mowin' than I, Simeon Doolittle; and as you was seventeen year old last April, and have now got to be e'en a'most as big as your daddy, its time for you to be a man and take your lead in the gang among the best on 'em. I've gin two shillin' extra to get you a first-rate scythe, which is a good deal o' money ye must know, these hard times; but Simeon Doolittle don't mind that for one of his own flesh and blood. Folks can say what they like about him; all is, he b'lieves in one thing, and that is, give a boy good tools and show him how to use 'em." "When that's done," he added, lowering his voice confidentially, and pausing a moment in his scythe-sharpening, while he touched the tip of his nose with the end of his whet stone,—"show him how to keep 'em *in order*. Heh, Billy? Wal, my boy, this it ain't likely ye can ollous do to-day; so if things don't go right, say nothin,' but come to me kind o' careless; for you know 'it's a bad workman that quarrels with his tools,' and I'll give your scythe a rub myself; then if it don't shave the hair off the grass as easy as a pig's bristles come arter scaldin', I'll say there's no gumption in whetstones at mowin' time. And, Billy, my boy, I say agin, mind what I telled ye so often last summer, when ye first begun mowin'. Stand up to your work like a man, as if ye warn't afraid on't; and don't go stoopin' down like, as if ye had predetarmined to break your back; nor poke your head and arms out like a crane a lookin' for pollywogs in the mud, tirin' yourself e'en a'most to death afore half a day's work is done. No sir, my boy; this is the way to do it smooth and easy. Stand up straight, and as ye pint in with the scythe, bend your knees a little, and as the blade comes round, move the right foot gradually for-'ard, rollin' your body in the hip-sockets like a well-greased hinge; now slightly bend your back, and as you are pintin' out, bring up the left foot and so go on; and that's the hull secret o' easy mowin'. I've swung the scythe from day-break to dusk, all day long, week in and week out, doin' nothin' else; and followin' my own advice, it never tired Simeon Doolittle yit."

Assembling of the Neighboring Mowers and Remarks thereupon.—"If here ain't Major Goodell, now, jest comin' over the hill—if I could only drive oxen as well as him. Wal, he can't out-beat me mowin', so there's some comfort in that idee. He keeps up an even swath, but then it ain't so wide as mine by jest 'leven inches. Howsomdever, as I was sayin' a little pot never held so much as a big kittle, so don't think, Billy, that I'm a blamin' on him; he does as much as any other man o' his inches, and more too in drummin'. If there ain't Jemes Jones, nephew of the Squire. What a spry feller he is; jest leaped that 'ere brook e'en a'most a rod wide, at a single jump. He's ollous talkin' chimics, geologics, rotation o' crops, and science o' breedin'. Wal, 'there's nothin' agin his mowin', tho I wish he warn't quite so book larned; he and the Sargeant is forever arguin' together about some

thin' nobody knows nothin' about, 'cept themselves." "Hello," says Uncle Sim, as I leaped the bars behind his back, and hearing my name mentioned, I took the liberty of smartly slapping him on the shoulder, "you here?" "Wal, I was jest sayin',"—Never mind what you were saying; for like yourself, I can now and then quote a proverb; "listeners you know never hear anything good of themselves." "But it wasn't that, Sargeant." No, said I, you're no backbiter; so go on, and let us have the rest of your remarks. "Wal, I was a sayin', beggin' pardon o' your presence, that you and Jemes Jones, who I'm glad is here now, are amazin' spry, and smart mowers, if you warn't quite so bookish." Oh, as to that matter, said I, there's Joe Watkins, moving lazily along the road here, who can scarce read at all, so you may have him to balance the account. "Yes, he is a lazy feller to walk, and not very bright in the upper story, nother, that's sartin; but somehow or other, Sargeant, you, nor nobody else mows round him, bright or cloudy. It is marvelous what a simple critter he is; and yet, if anybody ever cut a little too close to my heels for comfort, it is that 'ere same dummy, Joe Watkins. If there ain't Capting Truck, and that 'ere great big nigger, Cesar, he brought all the way from old Virginny with him, cause he is sich a good cook and sailor. He'd a better took him to Africa to settle, I guess. Wal, he beats all our folks a cradlin', that's a fact; and I'll acknowledge when we mowed together afore, his swath was an inch and a quarter wider than mine; but then he lops in and doesn't pint out clean, which is some loss in a hay crop, and makes the meadow look kinder ragged arter it's raked over. As for the Capting, I never see him swing a scythe in my life; but if he mows equal to that 'ere big gobbler, he sold me last winter, then he'll be the first man that ever out-mowed me. That Tom turkey, Sargeant, is a little the greatest feller I ever had in my yard; and sich lots o' chickens as we've got! But here's all seven on us now, besides Bill; and as the sun will soon be up, and I know by them yaller, streaky clouds in the east, it's goin' to be fiery hot, we'd better set in; so who says for finishin' the nine-acre lot of Simeon Doolittle's by dinner time? But afore we begin, men, jest hear me. I'm not one o' them that wants his grass cut so very short as some does. It's an old sayin' I know, 'that an inch at the bottom is worth two at the top.' Wal, now, accordin' to my notion, that depends on circumstances. 'Tis all very well when the grass isn't yet ripe; but I don't b'lieve in cuttin' unripe grass. I wait ollous till it begins to shed its flowers, and is not only done growin', but the bottom o' the grass has got kinder hard. That's the best time for cuttin' accordin' to my experience and my father's afore me; and then an inch at the top is worth two times two at the bottom. Cut the grass even—leave the dry part to shade the ground, to rot, and to manure the crop another year, that's the way to suit me."

We Commence Operations.—As this appeared sound doctrine to the rest of us, and no one having anything to say against it, Uncle Sim commenced at once with a stroke that showed he was no boaster, while one after another all rapidly followed his lead, Bill bringing up the rear in a style worthy of his gifted sire and instructor. Nothing in particular occurred till six o'clock, when Aunt Nabby blew the horn for breakfast. This over, away we went to work again, all hanging back a little when Bill led, in order to favor him; but when Uncle Sim, or the strong, long-armed Cesar headed the gang, we made the grass all smoke again.

The Morning Lunch.—The day had not belied Uncle Sim's prediction, for, by ten o'clock, it proved excessively hot. This, with the rapid rate at which we had worked, began to tell upon our exhausting frames; when right glad were we to espy the gentle Molly—her pretty face well shaded by a large sun bonnet—tripping down the meadow, bearing on either arm a good-sized basket, which she deposited at the foot of a large old oak, that threw its wide, thick branches for many a yard around, forming a grateful shade under which to repose and take our lunch.

"Come, neighbors," said Uncle Sim, throwing down his scythe, "'an empty bag don't stand up straight;' no more does an empty stomach. We've put the best part o' the grass now where it'll soon make hay, so turn too, and let's take a bite to freshen up agin."

We did not wait for a second summons; but instantly followed Mr. Doolittle's example, and were all soon seated under the old oak. The lunch consisted of sweetened dough nuts and cheese, bread and butter, and thin slices of cold ham, all nicely cooked and prepared by Aunt Nabby herself, in a manner that few could equal, and none excel. The drinks were various and such as we had been indulging in all the morning; for we had found it thirsty work, and the perspiration flowed out of us like water.

Uncle Sim took a long sip from a large, square, black case bottle, and as he set it down, smacked his lips, and gave an approving wink to Captain Truck, declaring "there was nothin' like 'lasses and water, stirred up with jest cider brandy enough of his own partikerler distillin' to cool the throat, and make an old feller, like him, feel kinder spry when it touched the bottom o' his stomach." To this, Captain Truck gave an assenting nod; but tasting from a stout, brown, earthen mug, into which he had most assiduously been pouring various liquids, "he was of opinion, as he had so often had his fill of molasses in the West-India trade, that part of Uncle Sim's mixture was all the better for being first boiled over into good old 'New England.' With plenty of this to grease his log, he could give any man on the ground a knot the start headway in mowing, and run him hull down afore meridian." Major Goodell "considered nothin' tightened him up like sweetened milk and water, spiced with a spoonful of ginger to keep from gittin' gripped by the cholic." Cesar waited till the Captain had got through, and then received from his hand a second edition of the brown-mug mixture, which he gulped down with undisguised satisfaction, declaring that "Massa Captin' warn't no possum, no how, and could go it with a fit a leetle better than raal old Varginny." Joe Watkins refused Uncle Sim's profered black bottle, and to his repeated invitation to "help himself—take sumthin' good now, that'll make ye strong," he

briefly replied, "since signin' the temperance pledge, it was good enough for him to drink with the Sargeant." He then came over to our side, where Molly had taken good care to place Bill. Each one of our party now took a large Japan tumbler, which he filled from a three-gallon stone jug, of fresh cold water, sweetening with brown sugar to his liking, and then adding a little sharp vinegar. This, Mr. Jones and myself, from several years' experience, recommended as the next best thing, after lemonade, we had ever tried to quench a burning thirst.

Fifteen minutes having been devoted to the lunch, up we all jumped, with renewed vigor, defying the increasing heat, and away we went at the grass again. At noon, precisely, Aunt Nabby appeared on the verandah, in front of the old house, and blew the horn for dinner; but there still being a small patch to cut, a simultaneous shout arose from all save Uncle Sim and Bill, of "let us finish the meadow before eating again." No objection being made, our scythes swung in the air like the rapid flashing of swords from the scabbards of a troop of cavalry, and in less than another half hour, the nine-acre task was finished.

The Dinner.—This was capital, consisting of the nicest of bread, both brown and white; baked pork and beans; fried ham and eggs; fresh roast beef, and boiled mutton; with bountiful dishes of new potatoes, green peas, squash, and beets, topped off with a delicious minute pudding.

Aunt Nabby and Molly waited upon the table, anticipated all our wants, and seemed highly gratified at the rapid disappearance of their well-cooked dishes. In discussing among us what was the best meat for hard-working men, the Captain went in strongly for the roast beef and boiled mutton, pretty bluntly adding, that fried eggs were very good, but as for the salt ham that accompanied them, the day and the work were already thirsty enough without eating that to increase it; and as for fat pork, it was fit for neither Jew nor Christian in hot weather, nor cold either, as to that matter, if a man could get anything else. In this opinion, however, his humble follower, Cesar, did not seem to coincide; for, sitting by himself at a side table, he had not only made a marvellous inroad into a considerable pot of baked beans—that he seemed greatly to relish, swimming as they did in fat—but had also shaved slice after slice from the bountiful pork piece, which, since the Captain's remark, fearing he might lose entirely, he transferred bodily to his plate, and soon made away with in cubic-inch chunks, to the great wonderment of our obstreperous ship master.

The Nooning.—Dinner over, Uncle Sim concluded, that as the grass lay so thick upon the ground, it would be a good hour and a half yet before dry enough for raking, we might therefore spend the time in a "nooning." So each proceeded to accommodate himself for a nap, according to his own fancy. The Captain hauled down from the beam overhead a horse blanket, and taking a coil of rope for a pillow, stretched himself at full length in the verandah. Uncle Sim, after proffering a Buffalo robe to us all round, which was declined, took an old saddle for his head piece, and joined the Captain. The Major interlocked the fingers of his two hands over his breast, and sitting down with his back and head bolt upright, near Mr. Doolittle, was almost instantly fast asleep. Joe couched upon the bare floor, and laid his arm across his old hat, with his head on top of that; while Cesar, bareheaded, stretched himself on the ground, flat on his back, right in the face of the scorching sun. Uncle Sim regarded the black for a moment, with his cocked eye askant, then dryly remarked, 'Wal, Mister Coal Tar, it's all very well your head ain't taller, to-day, or it would soon be meltin' hot," and joined in a concert of snoring with the Captain.

As for Mr. Jones, Bill, and myself, we adjourned to the shade of the old oak, took up sufficient half-wilted grass to make each a good bed, on which we couched, and set ourselves to studying glimpses of the clear, deep blue sky, which we caught opening now and then between the slight rustling of the thick-canopied leaves.

Ye gods, what a bed! And is there anything equal to it? The hot sun and the fatigue which makes rest so delicious; the quenched thirst; the satisfied appetite; the fragrant hay, with its elastic yielding to the slightest pressure of the body; the grateful shade, and the balmy air—all tend to make

Other occupations may have superior enjoyments, but if so, I know them not, nor do I desire to. Give me those of the industrious, intelligent, and independent farmer, the world may have all else of which it can boast.

SERGEANT TELTRUE.

RAISING OF CABBAGE AND TURNIP SEED.—The great object in raising cabbage or turnip seed, is to place the plants where there will be no danger of being impregnated with the farina of any other of the cabbage or turnip tribe. A few good plants of one variety, should be selected and planted in the spring, in an open spot, by themselves, where they may run to seed. No more than one sort, let it be remembered, can be safely grown in the same garden.

IMPROVED METHOD OF MAKING CHARCOAL.—A mode of manufacturing this substance, in France, is to fill all the interstices in the heap of wood to be charred, with dry, powdered charcoal; then cover the whole mass with earth or sods, and burn it the usual way. By this means, much of the access of air is prevented, and a saving of ten per cent., in volume, as well as weight, of charcoal will be gained over the ordinary modes.

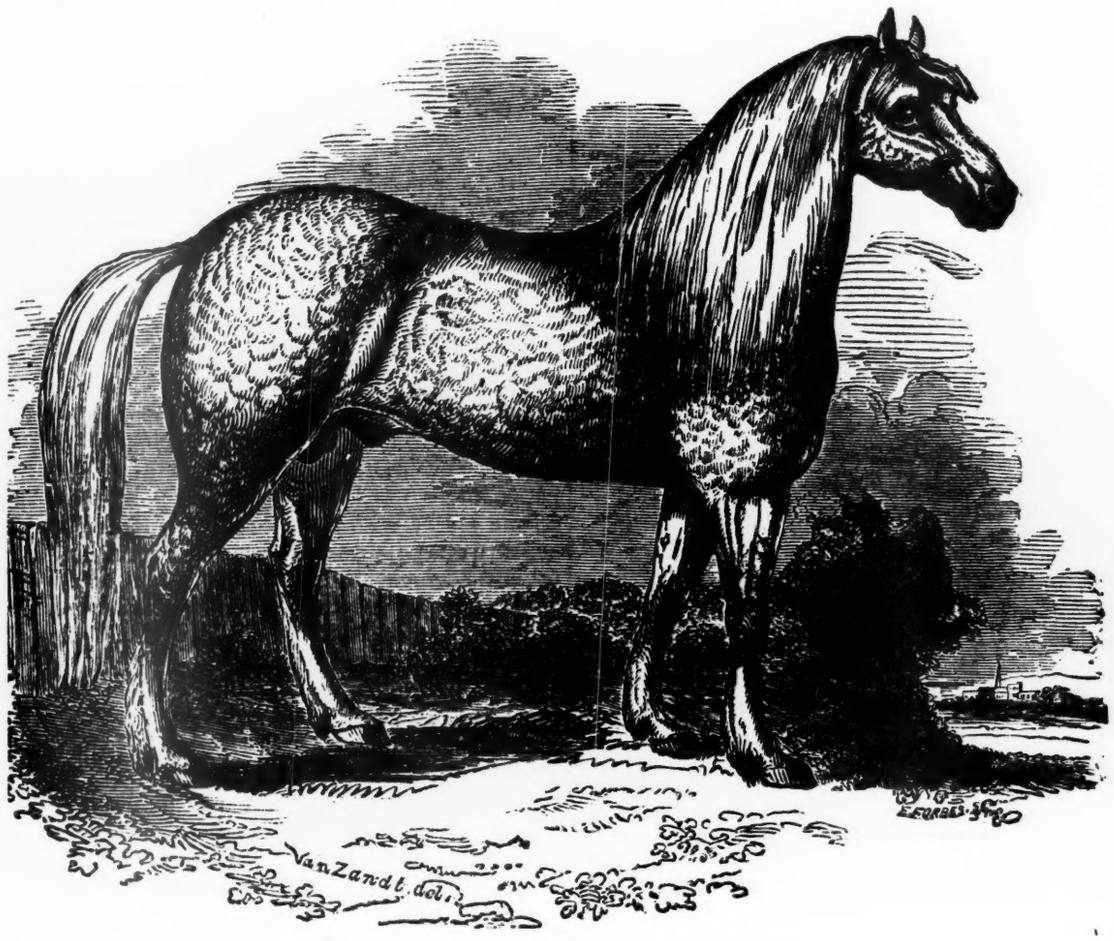
HOW TO MANAGE A KICKING COW.—Take a piece of rope about two feet in length, and tie, or splice, the two ends together so as to form a loop. Double up, by beeding, the fore leg of the milking side of the cow and slip the loop over her knee. By this means, she will necessarily have to stand on three legs and will not be able to kick.

HOW TO PRESERVE EGGS.—Take 8 quarts of unslacked lime, ½ lb. of common salt, 2 ounces of cream tartar; mix in water so as to bear an egg with its top just above the surface; pour the mixture into a water-tight cask containing the eggs, and they will keep sound and good for two years.

THE NORMAN HORSE.

THE following is a portrait of the Norman horse, *Louis-Philippe*, the property of Mr. R. B. Howland, of Union Springs, Cayuga county, N. Y. He was foaled on the 15th of July, 1843, is of a beautiful dapple grey, stands upwards of fifteen hands high, weighs about 1,200 lbs., is reasonably quick on foot, and of great substance and endurance. He was bred from the imported stock of Mr. Edward Harris, of Moorestown, N. J., a history and description of which, together with a portrait of *Diligence*, the sire of *Louis-Philippe*, may be found at page 209, of the third volume of the Agriculturist.

When Mr. Howland was in France, he often rode after the Norman horses in the stage coaches of that country, and witnessed their performances on the farm, and was favorably impressed with their great strength, hardiness, and endurance, coupled with sufficient activity for all the purposes of the farm and the road. He informs us, that he has frequently seen a team of five of these horses hitched to the great lumbering French *diligence*, which, with its luggage and passengers, would weigh at least five tons; and this, they would take along the road with ease, at the average rate of seven miles an hour. It is true that the roads are well McAdamized, and of course, hard, and smooth; but for a team of horses to draw an average weight of one ton each, at the rate of seven miles, or more, an hour, without distress or even apparent fatigue, to the end of a stage of fifteen miles, is a great performance, and they must be superior animals that can do it.



THE HORSE—LOUIS-PHILIPPE.—FIG. 52.

The origin of the Norman draft horse is of great antiquity; but the more modern Norman is said to have been improved and made the superior animal he now is, by a cross with the Andalusian, introduced into France through the Netherlands soon after the occupancy of that country by the Spaniards in 16—. We are informed that they are now attempting a still further improvement, by a cross with the stout English hunter.

The Norman horse is the origin of the French Canadian. Here, however, he is somewhat reduced in size, owing to his scanty fare and the severity of the climate. But he has gained, we think, in fleetness and hardiness, while he has lost nothing in endurance and that indomitable energy, which enables him to do more, perhaps, on the same food, than any other breed of farm stock in North America.

We commend Mr. Howland's purchase to the attention of the farmers of his district, as well calculated to get a superior breed of hardy, strong, docile draft horses and roadsters.

ROTATION OF CROPS IN ITALY.—In the vale of Lorento, in the vicinity of Mount Vesuvius, the rotation of crops is as follows:—1, Indian corn; 2, wheat, followed by beans, which ripen in March of the third year; 3, cotton; 4, wheat, followed by clover; 5, melons, followed by French beans. Thus, in five years, producing eight crops.

Ladies' Department.

HOW TO CLEAN SILVER PLATE.

Well-kept silver plate seldom requires more than to be washed every time it is used, with a swab, or soft brush, in strong soap suds. Soft soap is best. Rinse the article in clean, soft, hot water, and wipe dry, while hot, with a linen towel, after which, it must be well rubbed with soft goat skin. If it has become dull and greasy looking, after washing and wiping, clean it well with a piece of flannel, wet with spirit, or common whisky, dipped in powdered chalk, or whiting. Let this dry, and then rub it off with a soft, dry brush, taking care to clear it out of the engraved lines, and then polish with soft leather.

The insides of coffee and tea pots must be scoured frequently with wood ashes and soap suds. Forks and spoons should be cleaned daily with dry whiting only. The stains made upon these, by boiled eggs, can easily be removed by rubbing the spots, with table salt, while wet, after washing in warm water. The black spots upon castors, saltcellars, &c., may be taken off by rubbing them with flannel wet with spirits of hartshorn, and dipped in powdered magnesia; when dry, rub off with a brush and leather.

Silver filigree, and frosted ornaments, that have become tarnished, and are too delicate to be cleaned in the common way, should be soaked for a few minutes in one part spirits of hartshorn to two parts water; then rubbed very gently with a soft leather, afterwards dipping them in hot water and drying them with a cambric handkerchief. E. S.

Eutawah.

HOW TO MAKE DOUGH NUTS.

Your friend "Reviewer," expresses so feelingly his disgust for "badly-fried nut cakes," one would think them *almost* as disagreeable as "dried cabbage leaves." Although we Pennsylvanians never eat "dough nuts," as we call them, except in winter, while I think of it, I will give you my recipe for making them, and it will be ready for use when the time arrives for wanting them. If "Reviewer" does not think it too presumptuous for me to send it, or any such, to your "land o' cakes," we shall be glad to have him come to our cottage next Christmas and partake of them.

Recipe.—Take 3 pints of sweet milk, 1½ lbs. butter, 6 well-beaten eggs, 1 tea-cupful of good yeast, 1½ lbs. clean brown sugar, and spice to your taste. Warm the milk and mix it with the eggs; then stir in the flour, which should also be warmed; heat the butter and pour it over the dough, *hissing hot*, and work it well in; then add the yeast (brewers' yeast is best, and can always be got in winter), and work the mass until the hands come out clean. Set it to rise in a warm place; and when light enough, have ready a broad, shallow boiler, half filled with boiling lard; cut off from the dough, pieces about an inch and a half each way, in a lozenge, or diamond shape, and drop them into the lard. When of a light brown, and puffed out on both sides, they are done; take them out with a skimmer; drain them on a colander; remove them to broad dishes, and sprinkle them, while hot, with pulverized loaf sugar. Pure lard will not bubble when boiling hot, and must be tried by throwing into it a small piece of the dough; when, if at the boiling point, bubbles will instantly form around it. E. S.

EARLY RISING.

A few days ago, I found in an old commonplace book, an amusing account of the domestic habits of the royal family, and nobles of the court of Henry II. of France, from which I send you the following extract and free translation, as giving a curious picture of the division of time in the twelfth and thirteenth centuries, and making a good comment on my oft-repeated homilies on the advantages of early rising, at that day not thought vulgar, and fit only for farmers:—

"Lever à cinq, diner à neuf,
Souper à cinq, coucher à neuf,
Fait vivre ans nonante et neuf."

To rise at five and dine at nine,
To sup at five and sleep at nine,
Will make one live to ninety-nine.

Upon this, the old English proverbial jingle is an improvement, as promising better things to early risers than old age alone.

"Early to bed, and early to rise,
Will make a man healthy, wealthy, and wise."

E. S.

How to Remove Rust from Finely-Polished Steel.—Rub the spots with any kind of soft animal fat, and lay the articles by, wrapped in thick paper for two or three days; then, after cleaning off the grease with a piece of soft flannel, rub the spots well with powdered rotten stone and sweet oil, after which, the polish may be restored by rubbing with powdered emery on a soft leather; and the process may be finished with finely-powdered chalk, or magnesia.

To Make a Pleasant Cosmetic Soap.—Shave a quarter of a pound of old Castile, or palm-oil soap into soft, hot water enough to cover it; boil and stir it quite smooth; turn it into an earthen bowl, and, while hot, stir in enough Indian corn or bean meal, to make a thick paste; add an ounce of oil of almonds, and some oil of lavender, rose, or other agreeable perfume; cover it closely in small China toilet boxes, or jars, and put one on every washstand.

To Make Cold Cream.—Melt in an earthen pipkin, over a very gentle heat, a quarter of an ounce of white wax, and as much spermaceti; add, while hot, an ounce of the oil of sweet almonds; pour it into a bowl, and stir it until it becomes smooth and quite cold, adding gradually, drop by drop, a large table-spoonful of distilled rose or lavender water. This is particularly good for the hands, rendering the skin soft and pliant.

To Destroy Flies.—Mix in a saucer, a table-spoonful of cream, half as much ground black pepper, and a tea-spoonful of brown sugar. This will attract and kill flies without danger of poisoning children. E. S.

Boys' Department.

AGRICULTURAL CHEMISTRY—No. 3.

Boys, in my last letter I told you that the essential constituents of the atmosphere were oxygen, nitrogen, carbonic acid, ammonia, and watery vapor. These were all particularly described, except the last, and this I told you was a compound of oxygen and hydrogen, the two gases that form water. Hydrogen derives its name from two Greek words which signify *generator of water*. It is sixteen times lighter than oxygen, and fourteen times lighter than atmospheric air, and on this account it is often used for charging air balloons. These, when filled with hydrogen, rise on the same principle as smoke in air, a cork in water, or a leaden bullet in quicksilver.

Hydrogen is an inflammable gas, and burns with a blue flame, as you may observe in the lower part of the blaze of a candle. When ignited, it unites with a portion of the oxygen of the atmosphere, and the parts, thus combined, form water. This combination is always in the proportion of *one part*, by weight, of hydrogen, with *eight parts* of oxygen, or *two* to *one* by volume, and if these two gases were united in any other proportion, they would not produce water. It will be well for you to remember, that substances composed of the same elements, but in different proportions, often have quite different, and sometimes quite opposite characters. The following is an instance of this sort:—Sugar and starch, although differing widely in their appearance and general properties, are composed of precisely the same ingredients; namely, oxygen, hydrogen, and carbon; and the only difference is, that starch contains about one tenth less of hydrogen and oxygen, than sugar.

When hydrogen is burned, the water produced is chemically pure; but it is never thus found in nature. You know that water has the power of dissolving common salt, and many other substances, when brought in contact with them; and as there are always soluble substances in the soil, the water of springs and brooks must hold some of them in solution; consequently, the water of every spring, or rivulet, will be influenced by the soluble ingredients contained in the earth where it is located. But, you will now ask, is the water which falls from the clouds, chemically pure? Rain water is, indeed, much purer than spring water, and on this account, it has a more insipid taste; yet it is not chemically pure. You recollect I told you, when speaking of the ammonia of the atmosphere, that it was very soluble in water; therefore, it is always present in rain water. Carbonic acid is also brought from the air by every shower, as well as a portion of the air itself. You perceive, then, that water is capable of dissolving the ingredients of the air, as well as those of the soil, and you will hereafter learn in what manner vegetable existence is benefited by this solvent action. You are aware that spring and well water is sometimes said to be *hard;* that is, when it will not form a lather, or *suds*, with soap. This is owing to its containing a portion of sulphate of lime (plaster of Paris), which it has extracted from the earth, and which forms, with soap, an insoluble chemical compound. Another peculiarity of water, is, that it sometimes forms incrustations, such as you may have observed on the inner surface of tea-kettles, which have been some time in use. This is formed chiefly by carbonate of lime (carbonic acid and lime combined), and may be accounted for as follows:—The more carbonic acid water contains, the greater quantity of carbonate of lime it will dissolve. When water is heated, carbonic acid is driven from it, and consequently, the carbonate of lime, which was held in solution by this acid, falls to the bottom, and adheres to the vessel, forming in time, a thick scale, of crust.

You are now sufficiently acquainted with the chemical properties of water. I will, however, while on this subject, explain a few more properties belonging to it, as matters of curiosity, and as useful additions to your stock of general knowledge.

Steam, produced from water, by heat, fills a space about 1,700 times greater than the water from which it was formed, and is about half as heavy as the same volume, or bulk of air. This wonderful expansion has been taken advantage of for propelling machinery, and you may form some idea of its mighty force, from its power of setting steamboats, locomotives, &c., in motion.

Water, at the level of the sea, boils when raised to the temperature of 212°, and in an open vessel, no additional heat can raise its temperature above this point. (*a*) When passing into a gaseous state (that is, steam or vapor), it absorbs a large portion of heat, which remains in the vapor until it is again condensed into water. You may have noticed, that, when the ground is covered with snow, the air always feels chilly, although the sun may shine very pleasantly. This chilliness is caused by the absorption of heat while the snow is melting and evaporating; and in like manner, heat is absorbed and given out by all other substances, when passing from one state, or condition, to another. This general property of bodies may be thus explained: *When a body is passing from a denser* (thicker), *to a rarer* (thinner), *state, heat is absorbed; and when passing from a rarer to a denser state, heat is evolved* (given out). The reason why the weather moderates during a snow storm, is, because the heat contained in the vapor is liberated, and given to the air, when the vapor condenses into snow. This principle also proves (what every sensible and observing person is well aware of), that there is more economy in using dry wood, than green, for fuel. The latter usually contains nearly one third its weight of water, which, while the wood is burning, must be converted into steam. A cord of green wood is estimated to contain, generally, about 170 gallons of water; therefore, when burned in this state, as much heat is lost—*absolutely lost*—as would be carried away in the steam from the same quantity of water, if it were boiled away in kettles!

Were it not for this heat-absorbing power of vapor the warmth of summer would be insupportable, and every change of atmospheric temperature would be a source of misery. The following explanation will convince you of the truthfulness of this assertion. You know that, when ether, or alcohol, is dropped on the hand, a sensation of cold

is felt; this is because they evaporate very rapidly, and (in passing to a rarer state), abstract heat from the skin. If the evaporation were slower, just as much heat would be carried away, though we should not, of course, feel it so sensibly. Now, during warm weather, or when we are heated by exercise, perspiration flows freely from every pore, and as this is constantly evaporating, it takes the super-abundant heat from the system, and thus we are enabled to endure even a very high temperature with but slight inconvenience.

Another remarkable fact connected with this subject, will close this communication. It is a law of nature, applicable to all matter, that bodies are expanded by heat, and contracted when cooling. When the air of a room is heated by a fire, that portion which is highest, will always be found to be the warmest, the heated air rising in consequence of being made light by expansion. The same is true of water, which is always found to be lightest nearest the surface. Now the question presents itself: *Why is not ice first formed at the bottom?* The reason is, because an All-wise Creator has otherwise ordained. Nature has been closely interrogated by chemists, and on this point they inform us that water, when approaching the freezing point (32° above zero, of Fahrenheit's thermometer), condenses until within seven or eight degrees, or at 39° or 40° above zero, and here the condensation ceases, and expansion follows until the temperature descends to the freezing point. That portion of water, therefore, which first reaches the freezing point, is rarer and lighter than that which is not so cold, and consequently will rise to the surface. Here, then, we have an exception to the law of nature just mentioned, and for a very wise reason. (*b*) If it were otherwise, ice would then form first at the bottom, and in large collections of water, more would be frozen in the winter, than could be thawed in the summer. Our lakes and rivers would be changed to solid ice, and soon "the face of nature would be transformed into a frozen chaos." Thus science is continually unfolding additional evidences of the agency of Omnipotence in the contrivance and regulation of all the mechanism of matter; and when scrutinizing the machinery of nature, and admiring the wonderful skill displayed in all its parts, we should never lose sight of the Supreme Architect of all. J. McKINSTRY.

Greenport, N. Y., May 1st, 1848.

(*a*) In removing the pressure or weight of the atmosphere, by producing a vacuum, or ascending high hills or mountains, water will boil at a somewhat lower temperature than 212°. Thus, on the Peak of Teneriffe, water boils at 192°, and at the top of Mont Blanc it boils at 183°.

(*b*) Our correspondent has probably forgotten to tell us that there are other exceptions to this law, as it is a well-known fact that iron, antimony, and bismuth expand in passing from a fluid to a solid, or crystallizable state, as well as water (ice). These three metals, after being melted, expand instead of contracting, in becoming solid. Hence, a piece of cast iron, thrown on the surface of melted iron, will float, showing, that, it is more expanded, or lighter, in the solid than in the fluid state. This is a useful property of iron; for, in consequence of it, when it is cast in a mould, its expansion makes it fill the mould, and receives an exact impression, while other metals, which contract in becoming solid, do not take the form of the mould so completely. Antimony, from having the same property, is used to form part of the alloy of which printers' types are made. If gold and silver had the same property, in this respect, coin might be made more readily than at present, by casting; but these metals contract in becoming solid, and therefore, would not take a distinct impression from the mould, which effect it is necessary to produce by means of a stamp or die.

ANECDOTES OF ANIMALS, No. 3.

A GOOD horse story was told to me a short time ago, by a gentleman who was an eye-witness of the occurrence, which, if we will not call it an effort of *reason*, was at least one of memory of not a very common kind.

A man in the western part of the state of Ohio, purchased a remarkably fine horse from a person who lived about thirty miles from his residence, and rode him to his future home, where he lived an easy and a happy life—turned out into rich pasture when not wanted for use. The only service required of him, being to carry his kind master daily in his rides around the neighborhood. In short, no horse could be more fondled and caressed, nor do less to earn a livelihood.

When he had lived there about six years, he was one day feeding near the house, cropping the rich grass and curvetting in the fullness of animal spirits, when his master observed that he stopped suddenly, and stood perfectly still for several minutes, looking as if he was debating some important question in his own mind. He then, as suddenly pricked up his ears, raised his tail, and started off at a brisk trot on the road leading to his former residence. As he did not return, he was followed and easily traced to his old home, where he had safely arrived, and taken possession of his former quarters in the stable, seemingly much pleased with the whole adventure.

Eutawah. E. S.

COMPARISON OF SPEED.—A French Scientific Journal states that the ordinary rate per second, of a man walking, is 4 feet; of a good horse in harness, 12 feet; of a reindeer, in a sledge on the ice, 16 feet; of an English race horse, 43 feet; of a hare, 88 feet; of a good sailing ship, 14 feet; of the wind, 82 feet; of sound, 1,130; of a twenty-four-pounder cannon ball, 1,000 feet; and of air, in re-filling a vacuum, 13,000 feet.

INFLUENCE OF CLIMATE ON THE LONGEVITY OF PLANTS.—It is an interesting fact, perhaps not known to all, that some trees and plants, cultivated as annuals in one country, become biennial, or perennial in another. For instance, the tree cotton (*Gossypium arboreum*), in the West Indies, continues for five or six years; whereas, in our southern states it is only an annual. In a similar manner, the castor-bean plant (*Ricinus communis*), within the tropics, attains the size of a tree, or shrub, 12 or 15 feet in height, of several years' standing, but with us endures only for a few months.

FOREIGN AGRICULTURAL NEWS.

By the arrival of the Steamer Cambria, we are in receipt of our foreign journals to the 29th of April.

MARKETS.—*Ashes*, more enquiry. *Cotton*, a still further depression of ⅛*d.* per lb. *Flour*, *Grain*, and *Rice*, a small advance. *Naval Stores*, dull. *Tobacco*, brisk. *Wool*, steady.

Money continues at a low rate, but can only be had on the best security.

The Weather was rather unpromising, being cold and wet.

Guano Destructive to the Wire Worm.—Amongst the communications lately sent to the Council of the Royal Agricultural Association, was one from Mr. Dickinson, on the application of volatile alkali, as it exists in guano, for the extirpation of the wire worm.

Hussey's Reaping Machine.—Mr. Hussey, of Baltimore, has requested that his reaping machine may be subjected to trial, in England, under the orders of the Royal Agricultural Society, which request has been granted.

How to Fix the Ammonia in Urine.—The best way of fixing ammonia in urine, is said to be by the use of crude Epsom salts (sulphate of magnesia); its action is to throw down the triple compound of phosphates of lime and magnesia, while the sulphate of ammonia remains in the solution.

Cause of the Gapes in Poultry.—The cause of this disease is stated to be the use of filthy, sour diet, and drinking from dirty puddle water, infected with putrid decaying substances. The symptoms are gaping, coughing, and sneezing, dullness and inactivity, ruffled feathers, and loss of appetite.

New Work on Farming.—It is stated in the Gardeners' Chronicle that upwards of twenty of the best agricultural and scientific writers of the day are engaged, each in his own department, in writing a complete treatise on farming, to be commenced in monthly parts, sometime in the coming autumn.

Spanish Hens' Eggs are advertised for sale in London at 6*s.* per dozen. The hens, by which they were laid, were imported last autumn from Andalusia. They are represented as beautifully speckled, and much superior to the Spanish black hens, being unequalled as layers, both in the size and number of the eggs.

Remedy for the Potato Disease.—Dr. Klotzsch, of Germany, it is stated, has succeeded in preserving potato plants from disease by the peculiar method described below. He attempts to show that, as the potato is cultivated for its tubers, there is a great loss of nutrient matter if it be allowed to form flowers and fruit; and he concludes, that if this be prevented, the nutrient matter will be sent in the direction of the tubers and roots, and thus the plant will be strengthened and enabled to resist disease. He proposes, therefore, when the plants are from 6 to 9 inches above ground, to pinch off the ends of the stem and branches for half an inch only downwards from the point, and to repeat this four weeks later. In the experiments already made by him, in which the alternate rows were treated in this way, the result was, that the rows not so treated were straggling and sickly, and had scabby tubers liable to rot; while the rows so treated were bushy, luxuriant, dark-green, with very numerous tubers, clean, and free from all disease whatever.

Ellerman's Deodorizing Liquid.—Mr. Tower, of Weald Hall, lately called the attention of the Council of the English Agricultural Society, to the good effects he had found to arise from the use of the deodorizing liquid of Mr. Ellerman, the component parts of which, according to the analysis he submitted to the council, could not, he thought, but render the use of this preparation valuable as an agricultural as well as a deodorizing agent.

Mr. Ellerman's fluid, it will be recollected, is very efficacious as a means of destroying the odor of night soil, and other similar substances. It possesses, also, this advantage, that, while it neutralizes the odor so as to admit of the soil being removed, at any time, without creating a nuisance, it does not in any degree interfere with the efficacy of such matters as manures. On the contrary, it rather tends to increase the fertilizing quality. It is also stated that this fluid possesses a greater power than any agent invented for destroying the smell of fæcal matter, and leaving in the end only a slight acid odor.

Chicken Hatching in Egypt.—It is well known that there are immense numbers of double ovens for hatching chickens, both in Upper and Lower Egypt, called in Arabic *makhmals*. The number of these establishments has been estimated to be 164; whole number of eggs used, 26,204,500; number of eggs spoiled, 8,785,527; and the number of eggs hatched, 17,418,973. It is stated that each makhmal receives about 150,000 eggs during the time it continues open; say two or three months in the year, one quarter, or one third of which generally fail. One chicken is usually given for every two eggs received.

The eggs are first heated in the lower oven to a temperature of about 106°, for the first 10 days, and then for 11 days more in the upper oven, from which the fire has been removed; on the 21st day, the chickens come out. During the time of incubation the mouths of the ovens are kept well closed.

Exhibition of the Societé centrale d'horticulture, heretofore *Societé Royale*.—The annual show of this society was held at Paris on the 23d of March and three days following, at the grand gallery of the Luxembourg Palace, under any but auspicious circumstances. For at the very moment I was looking at the flowers, some thousands of persons were congregated in the gardens of the Luxembourg, almost close under the gallery, shouting the "Marseillaise"; but all this is now looked for as a matter of course, and no one thinks anything about it; even on Wednesday and Thursday, in the height of the revolution, all the theatres and places of amusement were as much crowded as at any other time.—*Paris Correspondent.*

Common Salt as a Manure.—Mr. J. B. Lawes, of Rothamstead, expresses his full belief, in the Gardeners' Chronicle, that salt can never be a substitute for the constituents ammonia and phosphoric acid; that no soil exporting corn and meat can be restored to fertility without the application of these two substances; that much of the money now expended in purchasing salt for agricultural purposes would be more profitably employed in procuring ammonia and phosphates; that salt, although apparently essential in the animal economy, and perhaps in that of plants also, is exported from a farm in such small quantities that many soils will, under an ordinary system of cultivation, never require its direct application, and others will do so seldom, and to a small extent only.

Interesting Physiological Fact in Relation to the Composition of the Horse.—By comparing the blood extracted from the different breeds of horses, it has been proved by the French chemists that their composition is naturally different; that from the thorough breeds, when exposed to natural decomposition, exhibits less serosity, or serum, than that of other breeds, and consequently the solid, or coagulated part, is in greater proportion; it contains also saline substances in greater abundance, and of a different quality. This blood, too, exposed to the air, retains its fluidity longer than any other, and does not give out a fetid odor like that of other horses.—*Exchange Paper.*

Editor's Table.

REMOVAL.—A. B. Allen & Co. have removed from No. 187 Water Street, to the two buildings adjoining above, Nos. 189 and 191, where they will be happy to see their friends and customers as usual. Their warehouse is now double the size it was before, being 44 feet wide, 70 feet long, and five stories high. It is stocked with the largest and most complete assortment of Agricultural Implements, and Field and Garden Seeds, ever yet offered to the public.

TIME OF HOLDING THE SHOW OF THE NEW YORK STATE AG. SOCIETY CHANGED.—We are requested to state that the next show of this society will be held at Buffalo on Tuesday, Wednesday, and Thursday, the 5th, 6th, and 7th of September. Further notices, embracing the conditions of the show, will seasonably be given.

STATE OF VEGETATION IN NEW YORK.—On the 25th of April, the apple and pear were in full blow, and the European linden was just bursting its leaves. May 1st, the elm in leaf, the lilac in flower, and the Paulownia nearly ready to open its buds. May 12th, the horse chestnut and paper mulberry in flower, the ailantus, locust, and sycamore unfolding their leaves, and the pear nearly out of bloom. On the 20th, the blossoms of the apple had quite disappeared.

ORANGE COUNTY MILK AND BUTTER COMPANY.—We would call the attention of our city subscribers to a milk and butter depôt, lately established at the corner of Reade and Washington streets. Pure milk and choice butter is punctually furnished directly from the best dairies of the several counties, through which the New York and Erie Railroad passes. Price of milk delivered to customers, 5 cents a quart, or 4 cents at the depôt.

THE THOUSAND-AND-ONE NIGHTS; translated and arranged expressly for Family Reading, with explanatory notes, by E. W. Lane. To be illustrated by 600 Beautiful Designs on Wood. New York: Harper and Brothers. Price 25 cents a number. This suberb edition of the "Arabian Nights' Entertainment," is in course of publication and will be comprised in two volumes of twelve parts, each containing 96 duodecimo pages. We heartily rejoice at the re-appearance of this enchanting book of magic rings, wonderful lamps, flying horses, genii, afrites, and other creatures of fancy, in so cheap and attractive a form. One of the peculiar and most interesting features of this *new translation*, is the introduction, by way of notes, of many short tales and anecdotes, which form an integral portion of the original work, but which have been omitted, for the most part, by all previous translators. These annotations and anecdotes form of themselves an invaluable auxiliary, as illustrating many oriental customs and modes of thought.

SYMPTOMS OF DISEASE.—A white fur on the tongue attends a fever or inflammation; yellowness on the tongue shows a disease of the liver, and is common to billious and typhus fevers. A tongue vividly red on the tip and edges, or down the centre, or over the whole surface, arises from an inflammation of the *mucus membrane* of the stomach or bowels. A white velvety tongue exhibits mental disease. A tongue red at the tip, turning brown, is the symptom of a typhus state.—*Exchange paper.*

A FRUITFUL APPLE TREE.—Mr. Samuel C. Corwin, of Phelps, Ontario county, has an apple tree (greening), which bore 70 bushels the past year. Of the 70 bushels 65 were good merchantable apples. This may be considered "rather steep" by some of our readers, but we are assured the statement is correct.—*Exchange Paper.*

AN ILLUSTRATED HISTORY OF THE HAT, from the Earliest Ages to the Present Time. By John N. Genin, Hatter, 214 Broadway, New York. Truly, this is an age of wonders, and to the genius and versatility of man there seems no end. In this amusing and exceedingly curious little work, the author shows himself equally *au fait* as an artisan, a litterateur, an antiquary, and a fashionable provider for the "externals of the head," if not for the brains. The performance is decidedly a "feather in his cap," and we trust that the public, in testimony of his success, will be ready to evince, that he is no "man of straw."

"THE MORAL CENTRE OF THE INTELLECTUAL WORLD."—Mr John Doyle, the most polite, courteous, and obliging bookseller, 146 Nassau st. N. Y., whose place of business is not inappropriately designated by himself under the name at the head of this notice, has just issued a full and carefully-prepared Catalogue of his large and extensive collection of ancient and modern books, new and second hand, treating on every department of literature, science, and art.

GRAPES AND WINE.—An interesting little work of 166 pages, has lately been published by C. S. Francis & Co., 252 Broadway, N. Y., entitled "A Visit to the Principal Vineyards of Spain and France; giving a Minute Account of the Different Methods pursued in the Cultivation of the Vine and the Manufacture of Wine, with a Catalogue of the Different Varieties of Grape, &c., &c." By James Busby, Esq. Price, 37½ cents.

LE DOYEN'S DISINFECTING, OR DEODORIZING FLUID.—This invention consists in neutralizing the noxious substances, containing sulphuretted hydrogen and sulphuret of ammonium, which are the prevailing results of the decomposition of animal and vegetable matter. It is successfully employed in depriving night soil of its offensive effluvia, and rendering it applicable as manure, without injury to public health, or to the individuals engaged in handling it. It has also been used for purifying hospitals and sick rooms, as a means of neutralizing the odor arising from fæcal matter, or putridity, and for removing the bad smell from water closets, sesspools, steerages of passenger ships, bilge water, &c., &c. See advertisement, at page 198, of the present number.

BEEF LAW IN MASSACHUSETTS.—All beef cattle, except bulls, sold in market by weight, shall, when slaughtered, be prepared for weighing in the following manner:—The legs shall be taken off at the knee and gambrel joint; the skin shall be taken from all other parts of the animal; the head shall be taken off at the second joint of the neck; the entrails taken out, and all the fat of the same be taken off and weighed as rough tallow, and every other part of the animal, excepting the hide and rough tallow (the udder of cows excepted), shall be weighed.

All beef shall be weighed upon the first week day succeeding that on which it may be slaughtered.

THE STUBBORNEST ANIMAL IN THE WORLD.—A crowd, who had gathered about a tavern door, was busy in discussing what animal, of all others, is the most contrary. Some contended that the mule is, some a hog, and others a yoke of oxen. A Dutchman, who had very gravely listened to the conversation, gave his experience as follows:—"Der mule, der hoc, und der ox," said he, "ish vary stupporn, poot der hen ish der stuppornest animal in der worldt. I had von und I vanted to hatch zom chiggen. I made von fine leetle nest, und boot him in it, und she gits up und runs avay. I den makes anoder shmall nest, und boots him on dat, und she runs avay agin. I den makes von nice leetle pox, und boots it all over der hen; und for all der trouble mit I have, fen I beeped unter der leetle pox, der hen vas shettin' standin'."

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, MAY 17, 1848.

ASHES, Pots,	per 100 lbs.	$5 25	to	$5 31
Pearls,	do.	5 50	"	5 75
BALE ROPE,	lb.	6	"	8
BARK, Quercitron,	ton,	30 00	"	31 00
BEANS, White,	bush.	75	"	1 38
BEESWAX, Am. Yellow,	lb.	19	"	22
BOLT ROPE,	do.	11	"	12½
BONES, ground,	bush.	45	"	55
BRISTLES, American,	lb.	25	"	65
BUTTER, Table,	do.	15	"	25
Shipping,	do.	9	"	15
CANDLES, Mould, Tallow,	do.	11	"	13
Sperm,	do.	25	"	38
Stearic,	do.	20	"	25
CHEESE,	do.	5	"	10
COAL, Anthracite,	2000 lbs.	5 00	"	6 00
CORDAGE, American,	lb.	11	"	13
COTTON,	do.	4½	"	8
COTTON BAGGING, Amer. hemp,	yard,	15	"	16
FEATHERS,	lb.	30	"	40
FLAX, American,	do.	9	"	10
FLOUR, Northern, Southern and West'n	bbl.	6 00	"	6 31
Fancy,	do.	6 50	"	7 00
Richmond City Mills,	do.	6 25	"	6 38
Buckwheat,	do.	—	"	—
Rye,	do.	3 50	"	3 75
GRAIN—Wheat, Western,	bush.	1 35	"	1 40
Southern	do.	1 12	"	1 25
Rye,	do.	72	"	73
Corn, Northern,	do.	56	"	58
Southern,	do.	54	"	56
Barley,	do.	80	"	85
Oats, Northern,	do.	41	"	48
Southern,	do.	40	"	45
GUANO,	do.	2 50	"	3 00
HAY, in bales,	100 lbs.	48	"	52
HEMP, Russia, clean,	ton.	225 00	"	230 00
American, water-rotted,	do.	160 00	"	220 00
American, dew-rotted,	do.	140 00	"	200 00
HIDES, Dry Southern,	do.	6	"	8
HOPS,	lb.	5	"	8
HORNS,	100.	2 00	"	10 00
LEAD, pig,	do.	4 00	"	4 12
Pipes for Pumps, &c	lb.	6	"	7
MEAL, Corn,	bbl.	2 25	"	2 62
Corn,	hhd.	12 50	"	13 00
MOLASSES, New Orleans,	gal.	25	"	27
MUSTARD, American,	lb.	16	"	31
NAVAL STORES—Tar,	bbl.	1 75	"	2 00
Pitch,	do	81	"	1 00
Rosin,	do.	65	"	75
Turpentine,	do.	2 50	"	2 75
Spirits Turpentine, Southern,	gal.	32	"	34
OIL, Linseed, American,	do.	57	"	58
Castor,	do.	1 50	"	1 70
Lard,	do.	60	"	65
OIL CAKE,	100 lbs.	1 00	"	1 15
PEAS, Field,	bush.	1 00	"	1 62
Black eyed, 2 do	do.	2 00	"	—
PLASTER OF PARIS,	ton.	2 25	"	3 00
Ground, in bbls.,	of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,	bbl.	8 00	"	11 00
Prime,	do.	5 25	"	7 50
Smoked,	lb.	7	"	11
Rounds, in pickle,	do.	5	"	7
Pork, Mess,	bbl.	9 75	"	12 00
Prime,	do.	6 50	"	9 00
Lard,	lb.	6	"	8
Bacon sides, Smoked,	do.	6	"	8
In pickle,	do.	5	"	7
Hams, Smoked,	do.	8	"	13
Pickled,	do.	6	"	10
Shoulders, Smoked,	do.	6	"	9
Pickled,	do.	5	"	7
RICE,	100 lbs.	3 00	"	4 00
SALT,	sack,	1 35	"	1 45
Common,	bush.	20	"	35
SEEDS—Clover,	lb.	6	"	8
Timothy,	bush.	3 00	"	4 00
Flax, clean,	do.	1 35	"	1 40
rough,	do.	1 25	"	1 30
SODA, Ash, cont'g 80 per cent. soda,	lb.	3	"	—
Sulphate Soda, ground,	do.	1	"	—
SUGAR, New Orleans,	do.	2½	"	5
SUMAC, American,	ton,	35 00	"	37 00
TALLOW,	lb.	8	"	9
TOBACCO,	do.	3	"	9
WHISKEY, American,	gal.	21	"	23
WOOLS, Saxony,	lb.	35	"	60
Merino,	do.	30	"	35
Half blood	do.	20	"	25
Common do	do.	18	"	20

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Meats.—Beef from 6 to 12 cents per lb.; Veal, 4 to 9 cents.; Mutton 7 to 9 cts.; Lamb, 10 to 12 cts.; Ham and Bacon, 10 to 12 cts.; Pork, 8 to 10 cts.; Young Pigs, $1 to $1.25 each.

Fish, &c.—Shad from 13 to 37 cts. each; Poggies, 12 to 18 cts. per dozen; Mackerel, 6 to 10 cts. each; Cod 2 to 3 cts. per lb.; Halibut, 5 to 6 cts.; Salmon, 30 cts.; Lobsters, 5 cts.; Oysters, 50 cts. to $1 per hundred; Clams, 25 to 50 cts.

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Dairy Products.—Butter from 18 to 22 cts. per lb.; Cheese, 9 to 12 cts; Cheese Cakes, 7 for 12 cents; Milk 3 to 5 cts. per quart.

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Fruit and Nuts.—Spitzenberg Apples (French) from $2 to $3 per bbl.; R. I. Greenings, $2 to $2.25; Newtown Pippins, $3 to $4.50; Roxbury Russets, $2 to $2.50; Apples in small quantities, 12 to 37 cents per half peck; Cranberries from $8 to $10 per bbl., or 75 cents per half peck; Green Currants, 8 to 10 cts. per quart; Strawberries none in market: Oranges, 25 to 75 cts. per dozen; Lemons, 18 to 31 cents; Pine Apples, 18 to 37 cts. each; Bananas, 25 to 50 cents per dozen; Hickory Nuts, $3 per barrel; Peanuts, $1.25 to $1 38 per bushel.

Vegetables.—Carter and Mercer Potatoes from 88 cts. to $1 per bushel; Flesh-colored do, 50 to 62 cents.; New Potatoes, (southern), $2.50 per bbl.; Sweet Potatoes, $1 to $1.12 per bushel; Onions (red), 88 cents per bushel; do (yellow), $1; New Onions and Leeks 8 to 10 cts. per dozen; Parsnips and Turnips, 62 per bushel; Shelled Green Peas (southern), 75 cts. per half peck; Squashes (southern), 25 cents each; Asparagus, 12 to 37 cts. per bunch; Water Cresses, 6 to 13 cents per half peck; Rhubarb, 75 cents to $1.25 per dozen; Artichokes, 10 cents each; Radishes, 6 to 12 cents per dozen; Lettuces 25 to 50 cents per dozen; Spinach and other Pot Herbs, $1. to $1.12 per bbl.

REMARKS.—Business is generally steady and quiet, with little change since our last. Flour and Provisions are giving way a trifle.

The Weather is very favorable for the growing crops, which are looking remarkably well the country over.

TO CORRESPONDENTS.—Communications have been received from Calvin Coulter, Jr., Reviewer, R. L. Allen, and Cato.

Review of the Transactions of the Agricultural Societies of Massachusetts, for 1847, has been unavoidably omitted this month.

Who was Cincinnatus?—C. C. Jr., of Orange, N. J.—Your history of this individual is altogether too long for insertion in our columns. The substance of what you say is expressed in the following words:—Cincinnatus was a Roman of low extraction, who, as he was plowing his fields, was informed that the senate had appointed him dictator. He left his lands with regret and hastened to join his countrymen, who were closely besieged by the Volsci and Æqui, whom he conquered, and returned to Rome in triumph. Shortly afterwards, he gave up his office and returned to the plow; but in his 80th year, he was again summoned as Dictator; and, after a series of successes, he resigned the absolute power he had enjoyed, nobly disregarding the rewards that were offered him, about 460 years before Christ.

Remarks on the Agricultural History of Primitive Nations of the East.—C. C. Jr Would require more space than our journal will admit.

Castration of Pigs.—L., of Tarrytown, N. Y. Definite and satisfactory directions for performing this operation cannot conveniently be given in this journal, neither do we deem it necessary, as there are almost always to be found, in every district, persons practically acquainted with this branch of veterinary surgery, who may be consulted or employed. For further information on this subject, see Youatt's Treatise on the Pig.

Strangulated Hernia in Pigs.—L. The case you name of the protrusion of the intestines after castrating your pig, was probably the result of strangulated hernia, which existed before the operation was performed. A proper course to pursue, in such cases, is to elevate the posteriors of the animal, on a fence, or some other object, with the fore feet resting on the ground, or floor, which will cause the intestines to fall back, by the laws of gravity, into the body again, when the incision, or rupture, may be stitched with thread, or metallic pins. By remaining in this position a few hours, a union of the flesh will take place, after which he may be released, and on being kept quiet for a week, or ten days, he will generally recover.

Boys' Department—Breakfast-Table Conversation.—C. C. Jr. Much obliged. Full for the present. Let us hear from you privately.

ACKNOWLEDGMENTS.—Proceedings and Supplement of the State Agricultural Society of South Carolina; also the Premium List of the Yates County Agricultural Society for its Annual Fair to be held at Penn Yan, on the 29th and 30th of September next; with a List of the Officers, Committees, &c., to which are added the Constitution, Rules, and Regulations of the society.

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" 1½	"	"	11 "	" 19 do	"
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This is the great design and scope of the *Agriculturist;* and these are the paramount objects of interests throughout America. No country can ever enjoy solid prosperity unless an enlightened system of agriculture is practised among its people, and this cannot be done except by the aid of those works which are written to teach it. Let all aid, then, to spread them broadcast throughout the land. It is the duty of every good citizen to do this—nothing equal to it can be done to benefit the country.

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